The division of labour in day-to-day practice
An ethnographic study of health professional work in intensive care

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The division of labour in day-to-day practice: an ethnographic study of health professional work in intensive care

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Abstract

This study examines health professional work in intensive care units (ICUs) aiming to draw out the associated interplay of context-specific factors and social processes through which clinicians accomplish their day-to-day practice. The study was conducted against a backdrop of political and public pressure for safe, quality and efficient healthcare, in which inter-professional work was argued as key to containing these challenges. The study has been theoretically informed by an interactionist perspective to the division of labour and has followed an ethnographic approach. Data have been collected through fieldwork in three London ICUs employing observation of actual and *in situ* practice complemented by interviews with health professionals.

Findings indicated that in response to the critical and fluctuating nature of patients' conditions in ICUs, day-to-day health professional work was organised in dynamic terms, in which professional jurisdictions were shared and disputed, influenced by professional care priorities, staff seniority and work urgency. Differing professional priorities regarding patient care posed a challenge to conventional professional boundaries, giving rise to inter-professional disputes. These were managed through interaction as they arose in day-to-day practice. Senior staff made confident claims over aspects of work and utilised direct communication approaches while junior staff evaded overt confrontation. Under conditions of intense urgent work, where patient deterioration was rapid and the potential for death was high, jurisdiction concerns appeared suspended as professionals coordinated their work through non-verbal and highly attuned interaction.

Considered together, these findings indicate that health professional work in ICU operates within an intricate system of professions which is influenced by wider health policies and context-specific clinical exigencies, is prone to disputes over jurisdictions, and is accomplished through day-to-day discursive and tacit interaction. Through this study a deeper insight into health professional work in ICU is gained that can inform the development of more refined and resilient health policies. Understanding the ways in which health professional work is organised and delivered in ICU will help to equip clinicians with the insight required to shape the future of this service towards the provision of safe and high-quality healthcare.

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Table of Contents

List of Tables

List of Figures

Glossary of Abbreviations

AHP	–	Allied Health Professional
CPAP	–	Continuous Positive Airway Pressure
DH	–	Department of Health
DHSS	–	Department of Health and Social Security
EC	–	European Commission
ED	–	Emergency Department
EWTD	–	European Working Time Directive
GMC	–	General Medical Council
HDU	–	High Dependency Unit
ICU	–	Intensive Care Unit
ICS	–	Intensive Care Society
IoM	–	Institute of Medicine
ICNARC	–	Intensive Care National Audit and Research Centre
MH	–	Ministry of Health
NHS	–	National Health Service
SHO	–	Senior House Officer
SpR	–	Specialist Registrar
UK	–	United Kingdom
WHO	–	World Health Organization

Chapter One: Introduction

Overview

This study examined health professional work in intensive care units (ICUs) in order to draw out the associated interplay of context-specific factors and social processes through which clinicians accomplished their day-to-day practice. It was based on ethnographic data and was theoretically framed by an interactionist perspective to the division of labour, informed by the work of Hughes (1928), Strauss *et al*. (1964), Freidson (1976) and Abbott (1988) in particular. Within the structural context of the Department of Health workforce modernisation policies (DH, 2000b; 2005b) for ICUs, the principal focus of analysis for the current study was *in situ* interaction among ICU staff – nurses, doctors, pharmacists and physiotherapists – in order to assess how professional jurisdiction was claimed and professional boundaries were accomplished in the ICU workplace.

The research was conducted against a backdrop of political and public pressure for safe, quality and efficient healthcare, in which inter-professional work was argued as key to containing these challenges. Despite continuous policy reports, recommendations and healthcare research on improving the delivery of safe and quality care in British hospitals (DH, 2000a; 2005a; 2009; Vincent, 2001; 2006; 2009; Hogan *et al.*, 2012), there was mounting evidence that progress was variable as public inquiries into British hospitals demonstrated (e.g. Kennedy, 2001) culminating in the Francis Inquiry (Francis, 2013). The parliamentary Health Select Committee identified that 'for all the policy innovations of the past decade, insufficient progress has been made in making NHS services safer' (2009:32).

A core issue hindering progress has been identified to be the lack of inter-professional collaboration and coordination of health professional work (IoM, 1999; 2001; DH, 2000a; 2008; Kennedy, 2001; Francis, 2013). Within the social science literature, the concept of the division of labour has long served as the focus of research on professional work, while the application of this to healthcare has sensitised researchers to the complexities involved in workplace organisation (Snelgrove and Hughes, 2002; Allen and Pilnick, 2006). Despite a proliferation of such research in

recent years, this largely consists of investigations in general hospital wards or community settings (e.g. Griffiths, 1997; Allen, 1997; 2001) rather than in specialised areas such as ICUs. In an ICU, the hospital's most acutely ill patients are cared for by a range of health professionals who are required to organise their work and collaborate in real time and under critical conditions (DH, 2000b; 2005b). While the growing financial pressure on the National Health Service (NHS) has resulted in many healthcare services being moved outside of hospitals and into community settings, the hospital's most critically ill patients continue to rely on life-saving ICU care. The specialism of intensive care has been developing rapidly with commentators predicting a prominent position for ICUs in the future shape of hospital services (Amaral and Rubenfeld, 2009). Understanding the ways in which health professional work is organised and delivered in this setting would help equip policymakers and clinicians with the insight required to shape the future of this service towards the provision of safe and quality healthcare.

Background to the research

As a nurse who trained and practised in intensive care outside the UK, I approached the claims encountered in UK health policy (e.g. DH, 2000a,b; 2005a,b; 2008) about inter-professional work and its association with safe and quality patient care with a combination of curiosity and caution. The potential merits of inter-professional work notwithstanding, the reality of the intensive care setting, at least in the non-UK country in which I trained, made this ideal argued for in UK policy appear unattainable. In my experience, the intensive care setting was still medically dominated in a way in which the nursing contribution to the decision-making process was minimal, while for allied health professionals it was non-existent. By examining the healthcare research literature, I uncovered tensions that hindered full exploitation of inter-professional work, while identifying that little work had examined this issue in specialist settings such as ICUs (Xyrichis and Ream, 2008; Xyrichis and Lowton, 2008).

The emphasis on inter-professional work in various healthcare policies appeared to contrast with the typical healthcare division of labour and working practices of health professionals in the NHS, which tend to be characterised by a strict medical hierarchy

(Battilana, 2011). Turning to existing literature and research on health professional work, these remain inconclusive and largely clustered around two opposite poles. At one pole, the professional dominance literature argues for medicine to dominate over the work of nurses and allied health professionals. At the other, a system characterised by ongoing professional competition over pliable jurisdictional boundaries is argued. However, investigations of actual health professional practice and examinations of existing theory in the particular clinical setting of ICUs remain scarce.

The clinical setting of intensive care is particularly suited to an in-depth investigation of health professional work as it holds unique properties that make it distinct from most hospital areas. Intensive care as a field of practice only formed in the last 50 years: it caters for patients in life-threatening conditions, is technologically advanced, staff intensive and highly multidisciplinary. At the time of this research, intensive care in England had just gone through a reorganisation (DH, 2000b; 2005b), a focus of which was inter-professional work. It was thus opportune and a rich setting in which to examine contemporary debates of health professional work in the NHS.

Theoretical position and assumptions

The thesis is informed by an interactionist perspective to the division of labour drawing its main inspiration from the work of Everett Hughes. Hughes (1928) argued that the division of labour implies interaction because it consists not merely of the different kinds of work people do, but because the different tasks so divided are parts of a whole whose product people contribute to. He argued that the logic behind the division, and combination, of activities and function into occupations, and of their allocations to people in various systems of work, should not be assumed as given. This perspective is elaborated and complemented by Anselm Strauss, who shifted attention from Hughes' macro ecology to the microcosm of everyday interaction, which he identified to operate within a negotiated order. Strauss *et al.* (1964) saw the division of labour not as a set of disembodied standards but as human arrangements subject to negotiation. Davina Allen (2001) developed Strauss' position further by clarifying that formal organisational structures can be modified even in the absence of

face-to-face negotiations, and therefore a more meaningful way forward is to consider the division of labour as continuously accomplished, rather than negotiated.

While both Hughes' and Strauss' s insights are relevant to the clinical microsystem within which health professionals work, the division of labour is framed within a wider context influenced by both external and internal pressures, as promulgated by Elliot Freidson (1976) and most significantly by Andrew Abbott (1988). Freidson argued that the forces of social organisation are inseparable from the empirical division of labour since these can influence the number of occupational roles, the selection and distribution of individuals through them, and even the content of those roles. For the majority of time, the limits to interaction posed by such forces are sufficiently broad and permissive that a variety of bargains are possible for the participants, and it is precisely in that practical variety where the division of labour is seen as a process of social interaction. Abbott consolidated and elaborated the above ideas into a more contemporary framework of the social organisation of work. Abbott argued that it is the content rather than the structure of professional work that is changing, and it is control of work that brings the professions into conflict with each other and makes their histories interdependent. He argued that the professional task area should be the unit of analysis, and in particular the links between a profession and its work, which he referred to as 'jurisdictions'. Since none of these links is absolute or permanent the professions make up an interacting system, an ecology, affected by wider social pressures, such as policies, which open and close areas of jurisdiction. Therefore it is the interaction between professions in the workplace as they compete for control over work jurisdiction that is critical and the proper focus of investigation. By employing the concept of jurisdiction Abbott provides the link through which social structure enters and conditions everyday professional interaction, which in turn may influence social structure through the mounting of jurisdictional claims that can be used to advance professional status.

Abbott's work is important here because it brings together interactionist elements of the division of labour, such as Strauss' concern with everyday interaction and negotiation, but sutures them within the wider system of social relations between professional groups. In this way, Abbott builds on from Freidson by emphasising the

interdependence of different groups. Abbott's approach therefore can offer greater explanatory capabilities for the current thesis on the ICU division of labour by incorporating and linking together both structural and interactionist concerns. This theorisation opens up the possibility of a more nuanced and complex matrix of relationships in which jurisdictions between different professions can be in flux. By focussing on inter-professional competition Abbott's approach also allows for the consideration of new actors entering the division of labour and the way in which these influence the existing ecology. Thus, although grounded in an overall interactionist perspective to the division of labour, this thesis argues that different theorists have different insights to offer at different levels: at the macro level Freidson and Abbott help us frame practice within the broad parameters of health policy, workforce modernisation and professional regulation, whereas Hughes and Strauss come more into play at the level of the clinical micro-system.

Drawing from the work of Hughes, Strauss, Freidson and Abbott in particular the thesis is theoretically grounded in the following four interactionist assumptions: Firstly, drawing from Hughes I saw health professional work as operating within an interdependent ecology; Abbott referred to this as the system of professions. Secondly, following Freidson, I appreciated that outside structural forces, such as health workforce policies, do not determine health professional work but rather set broad and permissive limits to it; Abbott identified this as occurring through the opening and closing areas of jurisdiction. Thirdly, drawing from Strauss *et al*. and Allen, I viewed the division of labour as being accomplished in the workplace; this according to Abbott is possible through professional interaction at the level of day-to-day practice. Fourthly, drawing from Abbott I expected the distribution of work jurisdictions in the workplace to be in perpetual dispute.

The current study identified the ICU workplace as the arena of investigation. In this context, the concern of the current thesis was ascertaining the ICU division of labour and the means through which jurisdictional settlements were accomplished in day-to-day practice. The processes through which jurisdictional settlements in the ICU workplace influenced other health policies and arenas, divisions of labour in other settings or wider structures lay beyond the scope of the current study.

Research aim and design

This study aimed to examine health professional work in ICU in order to draw out the associated interplay of context-specific factors and social processes through which clinicians accomplish their day-to-day practice. In seeking to tap into the everyday workings of the different health professionals in ICUs, and the ways in which they interacted and accomplished their day-to-day practice, an ethnographic approach was chosen as the most appropriate research design (Hammersley and Atkinson, 2007). Fieldwork was undertaken in three ICUs of two NHS Trusts in London, between April 2008 and May 2009. Primary data for the research were collected *in situ* via contemporaneous notes of actual ICU practice complemented by interviews with health professionals.

A critical review of the intensive care and social science literature, detailed in Chapter Four, pertaining to health professional work in acute hospitals revealed several key issues where understanding remained limited. These issues served as 'foreshadowed problems' (Malinowski, 1922)[1] which were refined as the study progressed and were translated into objectives as follows:

i. To examine the key contextual features of the intensive care setting and how these influence health professional work in ICU;
ii. To investigate the professional relationship between the different health professionals in ICU; and
iii. To analyse the social processes by which health professionals organise and deliver care in day-to-day ICU practice.

Contribution of the study

This study is an original investigation of health professional work in the clinical setting of the ICU. It contributes to the literature on the social organisation of healthcare work (Allen and Pilnick, 2006) through applying an interactionist perspective to the formation of the division of labour. Moreover, the study generates insights into the contextual and professional factors that influence the way in which health

[1] Malinowski (1922:8-9) claimed that foreshadowed problems are the main endowment of a scientific thinker, first revealed to observers by their theoretical studies.

professional work is accomplished in ICUs with implications for the delivery of safe and quality healthcare.

Within an empirical context, the study is set in the NHS following a period of policy reforms aimed at modernising intensive care services (DH, 2000b; 2005b). It examines health professional work within a distinct clinical setting and in doing so it draws attention to the contextual differences that exist between general hospital areas, within which the majority of the literature is located, and specialist healthcare areas such as the ICU. Moreover, it signifies the contribution of allied health professionals in ICU work, an area largely overlooked to date.

The thesis adds to the existing understanding of the social organisation of healthcare work through considering the applicability of current perspectives to the division of labour in ICUs. The study findings indicate health professional work in ICU to operate within an intricate system of professions which is influenced by wider health policies and context-specific clinical exigencies, is prone to disputes over boundaries and jurisdictions, and is accomplished through day-to-day discursive and tacit interaction. In so doing, findings question conclusions of previous research about the exclusion of nurses from the decision-making process and their passive subordination to medicine in ICUs (Coombs, 2004); challenge the notion that ICU nurses have been incorporated into ICU medicine (Carmel, 2006); question claims of an unproblematic subordination of allied health professionals to ICU medicine that is implicit in previews research (Carmel, 2003; Coombs, 2004); and expose the tacit processes of the 'global view' and 'stepping in' through which nurses appeared to accomplish the provision of seamless and safe care in ICUs.

Key concepts

The key concepts of work jurisdiction, professional boundary and boundary work are examined in Chapter Three and the ways in which they were applied in the current study in Chapter Five; however, these are introduced briefly here. 'Jurisdiction' has been defined by Abbott (1988:20) as the 'link between a profession and its work', which he considers as the core hallmark of a profession; a profession being an 'exclusive occupational group applying somewhat abstract knowledge to particular

cases' (ibid:8). Abbott argued that establishing a jurisdiction requires its successful negotiation in the workplace, and that it is the acceptance of a claim of expertise over an area of work by other professional groups that legitimates a profession's jurisdiction in the workplace. The concept of a 'professional boundary' is used in the current study to refer to a bundle of workplace jurisdictions and is employed to signify the distinction between two professional groups. 'Boundary work' as a concept was initially introduced to refer to an ideological style used by scientists towards framing a public image for their discipline (Gieryn, 1983; 1999). In the current study, boundary work refers to a process that involves attributing selected characteristics to a profession in order to maintain a social boundary distinguishing it from other professions or activities. Lastly, 'intra-' and 'inter-professional work' are used to refer to health professional work-related interactions between the same or different professions respectively.

Approach to the literature search

The description of the search strategy process has been included here to enable the reader to judge the comprehensiveness of the search and the validity of the review process (Griffiths and Norman, 2005). The aim of the literature review (Chapters Two to Four) was to examine the wider policy, practice, theoretical and research context in which the current study is situated through a critical analysis of specific issues concerning health professional work. The main approach used to locate literature was a search of key bibliographic healthcare and social science databases. This was complemented by searching back issues of key e-journals, hand and web-based searching, contacting experts in the field and adopting an ancestry approach (Cooper, 1998). A list of key words and variables of interest was developed in the first instance and grouped under three main components: the specialist healthcare service of the ICU; the wider sociology of work and the division of labour; and health professional work in acute hospitals. Different search tools such as truncations (*, $) and Boolean operators (OR, AND) were utilised to maximise the sensitivity and specificity of the search (Greenhalgh, 2010; Craig and Smyth, 2011). Searches undertaken in individual databases were saved on the system and re-run on a regular basis to ensure the

review reflected developments in policy, research and knowledge over the lifetime of the thesis.

The search included a number of sources in order to identify as much relevant literature as possible. Initially, key bibliographic healthcare databases were searched such as Medline, CINAHL, Embase, and PsycINFO as well as other multidisciplinary and social science bibliographic databases such as the Web of Knowledge and Web of Science. Bibliographic databases have been reported as one of the most fruitful sources of information as they include an immense amount of international publications (Cooper, 1998; Greenhalgh, 2010) and indeed this approach was found to be highly productive. However, searching databases is rarely sufficient to justify a comprehensive review (Cooper, 1998; Hart, 2001). Therefore a web-based search was also undertaken primarily by accessing relevant websites, such as the Department of Health (DH), the World Health Organization (WHO), the Intensive Care Society (ICS), and the Intensive Care National Audit and Research Centre (ICNARC). Finally, an ancestry search involving examining the reference lists of articles already retrieved for relevant studies was also undertaken.

Studies reviewed were largely primary research articles of sound methodology and ethnographic monographs (e.g. Zussman, 1992; Allen, 2001; Coombs, 2004), from the sociological and healthcare literature on the social organisation of health professional work. International literature was also sought to enable an international appreciation of the field. However, findings from international work were treated with caution since healthcare systems and policies differ between countries. While decisions concerning the development of the search strategy to identify relevant material were based on the principle of undertaking a 'wide' search, decisions made concerning the inclusion and exclusion of specific material were made with the aim of enabling an 'in-depth' examination of key issues specific to health professional work, particularly in relation to the ICU and the UK context.

Outline of the thesis

The thesis is presented in ten chapters. The first chapter has provided an introduction to the study by setting the broad context, noting the relevance of the study. The

background to the study, research aim and design were also introduced here. Chapter Two examines the policy and practice context in detail with a critical review of related healthcare literature, including UK and international policy regarding patient safety, quality of care and inter-professional work. The clinical context of the ICU is also examined here in order to establish the clinical boundaries within which the research was conducted and to tease out the main policy and practice issues with which this study is concerned. This includes a historical trace of this recent specialism and related policy developments. Chapter Three sets out the theoretical ideas informing this study and critiques the sociology of work with a particular focus on the 'division of labour'. It considers the key ideas and theorists in this area and examines the relevance and theoretical insight obtained by applying these ideas to health professional work. The interactionist approach to the division of labour is used to theoretically frame the study. In particular, Abbott's (1988) 'The System of Professions' is identified as a recent, comprehensive and relevant exposition in the sociology of work and is examined closely. Chapter Four critically analyses key relevant research that applied the theoretical ideas identified in Chapter Three in the contemporary setting of the acute hospital. Here, the hospital work environment and its division of labour is examined and relevant research synthesised. Through this, key empirical avenues that remain unexplored are identified which the current study addresses.

Chapter Five sets out the study design and method, and explains the choice for an ethnographic approach for the study of health professional work including its underpinning principles. The research process followed is included here, as are issues of access, researcher reflexivity, data collection and analysis. Within this chapter the researcher's positionality and decision-making are made transparent.

Chapters Six to Nine present the study's findings using the empirical data. Chapter Six examines the clinical features and exigencies of the ICU as a distinct setting in the hospital to situate the research findings. The ICU layout, equipment, typical work process, kind of patients and staff are examined in turn. Chapter Seven examines the intra-professional organisation of ICU nursing and the key processes through which nurses accomplished the delivery of day-to-day ICU practice; the way in which these processes facilitated the delivery of safe patient care in particular is critically

considered. Chapters Eight and Nine build on Chapters Six and Seven to examine the processes through which ICU work was accomplished inter-professionally, through analysis of the professional boundary between doctors and nurses, and between allied health professionals. In these chapters, the ways in which inter-professional disputes were mounted and settled are examined under different conditions of work urgency and between staff of different seniority. Chapter Ten provides a reflection on the theoretical position of the study and pulls the findings together in an overall synthesis which teases out implications for health policy, nursing practice and future research.

Chapter Two: The Policy and Practice Context of the Study

The purpose of this chapter is to examine the policy and practice context which served as the backdrop for the current study. By doing this, the study is situated in the context of contemporary healthcare policy debates and positioned firmly in the clinical setting of intensive care.

Initially the wider health services' policy context as pertaining to patient safety and quality of care is critiqued. Influential British and North American reports are examined that place patient safety and quality of care high on the agenda of health services internationally. This examination indicated that attention to health professionals' working practices, and in particular inter-professional collaboration, arose as a way to contain the complexities that characterise provision of healthcare services and as a means of ensuring quality of healthcare and patient safety. An examination of how the policy discourse of quality and safety has shaped acute hospitals and especially intensive care services follows.

The chapter then focuses on tracing the history of intensive care, examining its origins and future directions. The key defining features of this clinical setting are systematically unpicked drawing from key policy and research reports. This enables key knowledge and research gaps concerning the organisation and delivery of ICU services to be identified, which in turn inform the current thesis.

Safe and high-quality care

The study is situated in a period of political and public pressure for efficient, safe and high-quality healthcare (DH, 2008; 2010) in which consumerism and a focus on patient entitlement for quality care have increased healthcare expectations. These political and consumer-driven expectations have been encapsulated in reports for improving the safety and quality of healthcare services (Bodenheimer, 1999; IoM, 1999; 2001; WHO, 2008).

In particular, in the last two decades, there have been a number of reports raising concerns over the negative impacts that healthcare services can have on patients, such as from medication errors (Brennan *et al.*, 1991; Wilson *et al.*, 1995; IoM 1999;

2001; DH, 2000; Baker and Norton, 2004). It has been suggested that adverse outcomes appear to be associated with between 6% and 16% of hospital admissions, with serious harm occurring in around 1% of these cases (Runciman *et al.*, 2007). In England, for example, as many as one million patients within the acute sector may be harmed annually (Vincent, 2006). Patient safety incidents have grave implications not only for patients but also for health systems such as additional costs related to extended stays in hospital and increased demands on the health workforce and resources (Zhan and Miller, 2003).

With millions of patients around the world potentially at risk, patient safety and quality of care has moved up the agenda of policymakers and governments internationally (WHO, 2008; Iedema, 2009). The WHO describes patient safety as the reduction of risk of unnecessary harm to an acceptable minimum (Sherman *et al.*, 2009). Quality of healthcare is a broader concept encompassing principles of safety, effectiveness and efficiency (IoM, 2001). Patient safety is an integral part of the quality agenda and it is now hard to look at the one isolated from the other (Brennan *et al.*, 2005; Rhodes *et al.*, 2012).

At the same time, the ageing of the population, advances in medical technologies and rising public expectations have resulted in more people living longer with complex conditions, chronic illnesses and co-morbidities (Moynihan and Smith, 2002; Bodenheimer, 2005; UN, 2007). Demand for healthcare services is expected to rise further as frailty, disability and co-morbidity increase at older ages, especially among people aged 80 and over (EC, 2009). Moreover, the workforce itself is ageing and shrinking and so meeting such demands will be ever more challenging (Hart, 2007).

While the provision of safe and high-quality healthcare remains high on political agendas, questions have been asked about the slow progress made and the underpinning theoretical perspectives on safety (Jensen, 2008; Rowley and Waring, 2011). For example, Rowley and Waring (2011) argued that current conceptual and theoretical orthodoxy in safety research is underpinned by a ‘measure and manage’ approach which tends to gloss over the complexities of healthcare organisation and delivery. Moreover, commentators have expressed concern about the appropriateness of importing safety approaches from other areas, such as the airline

industry, without a detailed understanding of the defining features of health professional work within particular healthcare settings and medical specialisms, such as ICU (Flin and Maran, 2004; Musson and Helmreich, 2004; O'Connor *et al.,* 2008). The particular conditions, practices and contingencies that contribute to safe and quality healthcare remain unclear (Summerton and Berner, 2003) and therefore further research into this aspect of healthcare practice is warranted.

Healthcare research has tended to privilege the formal and structural dimensions of health services at the expense of their social dimensions (Iedema, 2009). The Institute of Medicine (1999) report 'To Err is Human', which looked into the incidences and causes of patient safety in the USA, highlighted the importance of confronting the *in situ* messiness of healthcare practice, making the point that patient safety does not purely hinge on the medical-technical dimensions of patient care. In particular, patient safety is contingent on improving the organisation and delivery of healthcare services, which is itself reliant on how clinicians negotiate relations, tasks and responsibilities *in situ* (IoM, 1999; Iedema, 2009). The follow-up report 'Crossing the Quality Chasm' (IoM, 2001) further endorsed this position and stated that to improve safety and quality of care healthcare services required innovative system behaviour and cooperation among clinicians in particular.

The assumption implicit within such arguments is that through collaborative inter-professional work superior outcomes and resource efficiency will be achieved by pulling together the skills, experiences and knowledge of healthcare workers, thus achieving a reduction in duplication, delays and gaps in care provision (Hallet and Birchall, 1992; Ovretveit *et al.*, 1997). This is especially advocated in general medicine and primary care (Grumbach and Bodenheimer, 2004), but also increasingly in specialised hospital areas such as ICUs (Rhodes *et al.*, 2012). The arguments for inter-professional work in healthcare and the development of this discourse in policy documents are critiqued next.

Inter-professional work in healthcare

It has been argued that health professionals working in concert can offer greater capacity to solve 'complex health problems that cannot be adequately dealt with by

one profession alone' (WHO, 1999:135). Doctors, nurses, pharmacists and other professionals cannot individually achieve the 'quality goal' with the implication being that clinical care should be redesigned according to a team approach (Bodenheimer, 1999). The expectation is that collaborative working among the various health professionals will lead to improved healthcare delivery processes, which in turn will lead to more appropriate care, better patient outcomes and reduced costs (Bosch *et al.*, 2009; Moreno *et al.*, 2009).

Although of key policy concern today, inter-professional work as a way of providing healthcare services in the UK has been evolving throughout the 20th century. The first mention was made in 1920 when a committee under the chairmanship of Lord Dawson of Penn proposed that GPs should work in teams with other health professionals in health centres to provide comprehensive care (Milne, 1980). In the 1980s, inter-professional work was strongly supported by governmental publications as a means of alleviating collaboration issues and supporting inter-agency working particularly between health and social care services (DHSS, 1981; 1986). In this context, it was seen as a way of managing the problem of medical dominance in primary care by providing a framework for joint working (Dingwall, 1980). The notion of different health professions working closer together was championed in the 1990s with primary and mental healthcare teams being established (Audit Commission, 1992) to facilitate the movement of patients into the community and the closure of mental health hospitals. One policy document clearly stated that the best and most cost-effective outcomes for patients occur when professionals work together to ensure progress is made in healthcare provision (NHS Management Executive, 1993). However, these arguments were politically driven and not based on actual research evidence. Education and training of healthcare professionals was also identified as being in need of change since professionals were identified to have been trained for too long in a unidisciplinary way and times demanded a change in the workforce from individual professional tribes to inter-professional teams of people (DH, 2000a; Crinson, 2009). Interprofessional collaboration therefore can be seen to fulfil a range of policy goals from increasing efficiency in the use of resources to enhancing quality and safety, and enabling the shift to the community as well as balance of power.

The ongoing interest in collaborative working reflects a growing body of research suggesting the possible benefits of incorporating a team approach into the healthcare service. For example, an evaluation of the introduction of integrated primary care teams – involving district nurses (n=29), health visitors (n=10), practice nurses (n=18) and general practitioners (n=27) – in two Health Authorities in England, using both questionnaires and interviews, concluded that these led to increased awareness of different professional roles, skills and expertise which in turn improved communication and liaison and referral practices (Ross *et al.*, 2000). Quality of service provision was improved by reducing duplication and enabling specialist care to be used more effectively. Similar findings were echoed in studies in North America. In a cohort study of 543 patients in 18 primary care practices, patient groups receiving care from a primary care team were compared with standard physician care for a period of two years (Sommers *et al.*, 2000). In that study, the researchers concluded that collaboration between primary care physicians, nurses and social workers enabled coordinated holistic care to be provided efficiently and timely, enhancing patient satisfaction. At two years, the patient group receiving care from a primary care team had lower hospital admission rates, which consequently reduced healthcare costs with an estimated saving of US$258,934 in one year.

In the UK, the DH commissioned a national study to determine whether and how team approaches contributed to quality, efficiency and innovation in healthcare in the NHS (Borrill *et al.*, 2001). The 'Healthcare Team Effectiveness Project' was carried out over a three-year period where data were gathered for some 400 healthcare teams primarily based in primary care, using a broad range of research techniques, including questionnaire surveys, telephone interviews, in-depth interviews, observations and focus groups. Through a questionnaire survey, healthcare professionals were asked to rate the effectiveness of their teams in terms of participation, support for innovation, clarity of team objectives, emphasis on quality, reflexivity and integration. Teams were both externally rated and self-rated their overall effectiveness in providing patient-centred care, overall innovation and number of innovations that were healthcare related. Information was also collected on the mental health of team members measured by the GHQ-12, a reliable instrument measuring mental health

and psychological stress (Borrill *et al.*, 2001). The higher a team scored on team effectiveness measures the more innovative both the team and the wider organisation were found to be, and higher scores on effective patient care ratings were achieved. Moreover, health professionals working in teams reported better mental health and were more likely to remain in post, thus reducing absenteeism and staff turnover. In addition, a significant inverse relationship between the percentage of hospital staff working in teams and those hospitals' mortality rates was identified: the more staff worked in teams, the lower the mortality rate of the hospital. Findings from this project demonstrated the potential for positive staff and patient outcomes; however, these remain generic and more relevant to primary care rather than acute hospitals, while specific implications for hospital-based services such as intensive care were not examined in that project.

Furthermore, practices and procedures of human resource directors from 137 acute hospitals in England were explored in a study involving questionnaires and interviews (West *et al.*, 2002). That research aimed to determine whether there were links between human resource management practices and hospital performance as indicated by patient mortality data. Human resource directors were asked to complete a questionnaire survey detailing their human resource strategy, policies and procedures in their hospital. Interviews probed for information about the extent and sophistication of appraisals for employees, training for employees and the percentage of staff working in teams. Data on patient mortality were also gathered. The findings from this study revealed a strong inverse association ($p<0.001$) between the percentages of staff working in teams with other professions and patient mortality at hospital level. Although a regression analysis was discussed in that paper, limited information was made available to assess the appropriateness of statistics used, while the precise mechanisms through which the reduction in mortality rates was achieved were not examined (West *et al.*, 2002).

In response to such promising findings, the 'NHS Improvement Plan' (DH, 2005a) highlighted that regulatory, institutional and professional barriers that have traditionally created discontinuity of care needed to be recognised and broken down so that a joined-up healthcare service could be created that would enable integrated

patient care. The 'NHS Next Stage Review' (DH, 2008) clearly stated that healthcare is delivered by a team of health professionals, in which all members are valued and pull in the same direction. Here, it reinforced the notion that effective and safe care rests with professionals forming expert teams while stating that patient safety and quality of care discussions need to take place within such teams. The contribution of the diversity of professional roles was recognised as being important to the delivery of effective care both in primary and secondary healthcare services (DH, 2008).

More recently, a renewal of the NHS Constitution confirmed the team approach to healthcare services continues to receive support (DH, 2013a). The constitution emphasised that health professionals are responsible not only for the care they personally provide, but also for their wider contribution to the aims of their clinical teams (DH, 2013a). In addition, a recent report (Francis, 2013) into concerns of poor care standards in an English hospital also highlighted the importance of joint working between health professionals. In the report there is clear acknowledgement that most service provision in an acute hospital setting is the result of inter-professional working, such as between ward-based nurses and surgical teams, and encourages greater efforts to be made to bring professional teams together. In response, the DH's (2013b) 'Patients First and Foremost' report recommended that health professionals 'need capability and capacity to do their job properly – clarity about roles and responsibilities, team structures, team working and cooperation' (p. 68).

Although much policy attention about inter-professional work has focused on general hospital wards and elderly care (e.g. DH, 2013b; Francis, 2013), the DH has long acknowledged the importance of a team approach for specialist healthcare settings such as ICUs. The ICU is the most costly area of the hospital; in England, in 2000, intensive care was estimated to cost the NHS £719 million per year with the average cost per patient day to be £1,328 with two-thirds of this cost attributed to staffing (Ridley and Morris, 2007; Hutchings *et al.*, 2009). ICU annual expenditure in England rose to £1billion in 2006 and £2.5billion in 2012 as the need for and provision of intensive care beds increased (Hutchings *et al.*, 2009; DH, 2012).

The DH has called for flexible, collaborative partnerships that will enable ICU teams to deliver a patient-focussed ICU service (DH, 2000b; 2001). In a North American study,

394 intensive care staff, consisting mainly of doctors and nurses, from 17 ICUs were surveyed to examine the relation between team effectiveness and patient outcomes (Wheelan *et al.*, 2003). Staff members' responses to the Group Development Questionnaire (GDQ), a validated instrument, were collected along with a demographic survey. Each ICU's results on the Acute Physiology and Chronic Health Evaluation (APACHE) III Mortality Prediction, a system used to predict a patient's risk of dying in the hospital, were also collected. Patients' medical records were reviewed to determine the standardised mortality ratio (SMR) for each unit. Results of that study demonstrated a significant positive association ($p<0.05$) between higher performing teams and reduced mortality rates, although the underlying mechanism through which high performance was achieved was not the focus of investigation (Wheelan *et al.*, 2003).

The DH's best practice guidance for intensive care services particularly emphasised the importance of different professionals working together (DH, 2005b). Here, it was acknowledged that what intensive care patients need most are 'dedicated, highly skilled multidisciplinary teams' (DH, 2005b:3). Essential to the delivery of a high-quality intensive care service are effective teams of different health professions that work in a culture of shared learning, respect, openness, mutual challenge and support to ensure the delivery of effective patient-centred care (DH, 2005b). As utilisation of intensive care continues to increase, the efficiency of this costly service, especially regarding health professional work, comes under closer scrutiny (Garland, 2005). Despite this, research into health professional work in ICUs remains relatively scarce, albeit with notable exceptions (e.g. Zussman, 1992; Coombs, 2004; Carmel, 2006).

Increasing policy attention to patient safety and quality of care in the NHS continues to spark concern about the lack of progress made in relation to inter-professional working among healthcare staff. It has been suggested that this has become part of an orthodoxy to which many NHS organisations pay lip service, even when there is little change in underlying patterns of behaviour in practice (Snelgrove and Hughes, 2002). This is because although the quality of working between health professionals appears in policy terms to be prerequisite for good healthcare practice, this is an area of practice that remains unclear (Lewin and Reeves, 2011). This is partly because

research in different healthcare workplaces exploring actual health professionals' work *in situ* remains limited. Thus, understanding of inter-professional working practices and the development of recommendations for developing, supporting, maintaining and improving the quality of healthcare services remains underdeveloped. This is turn endangers the delivery of quality and safe patient care, a factor which becomes particularly important in the specialised area of intensive care where the hospitals' most acutely ill patients are treated. In the next section the ICU, as the setting of the fieldwork, is examined in detail.

Intensive care units in the UK

The purpose of the second part of the chapter is to situate the thesis in the clinical context within which the research was undertaken by examining the development of ICUs in the United Kingdom. The origin of this specialism is traced through critical examination of key policy and research, and identified to be an expanding service, rising in prestige and influence. Intensive care is currently one of the most dynamic, fast-paced, costly and critical areas of modern hospitals. As hospitals become more focussed on the acute phase of illness, with chronic illness being increasingly attended to in community settings, the intensive care specialism becomes important in order to respond to the high illness acuity of hospitalised patients (Vincent and Singer, 2010).

The origin and development of ICUs is examined first, focussing on how past and current drivers have shaped health professional practice. Intensive care is revealed to be an emergent health service, arising out of patient need and clinician demand, but subsequently evolving as a clinical multidisciplinary super specialty, likely to remain a dominant feature of modern healthcare.

Intensive care represents the concentration of healthcare staff and equipment in a distinct area of the hospital in order to care for patients whose conditions are life-threatening and who need constant and close monitoring and support (Reiser, 1992; Green *et al.*, 2011). An ICU has been recently defined by the European Society for Intensive Care Medicine (ESICM) as 'a distinct organizational and geographic entity for clinical activity and care operating in cooperation with other departments integrated in a hospital' (Valentin and Ferdinande, 2011:1576). An ICU serves to provide

monitoring and support of threatened or failing vital functions in critically ill patients who have illnesses with the potential to endanger life, in order to perform adequate diagnostic measures and medical or surgical therapies to improve outcome (Valentin and Ferdinande, 2011).

As a hospital service, intensive care was initially introduced in an ad-hoc and transient manner in response to clinical needs (Crocker, 2007). One of the earliest examples of an ICU was seen in 1942 as a result of a tragic nightclub fire in Boston, Massachusetts. In order for the Massachusetts General Hospital to cope with the large volume of severely burned survivors, an area of the hospital was segregated so that teams of staff and equipment could be concentrated to treat them (Faxon and Churchill, 1942). However, when the situation was resolved and clinical need ceased to exist, the ICU was subsequently dismantled.

The current form of an ICU as an elemental hospital service can be traced back to the polio[2] epidemics of the 1950s (Treacher, 2009). During that period, polio was a global epidemic often resulting in patients suffering from respiratory muscle paralysis. One of the ways patients' respiratory function was restored was via mechanical ventilators designed to support their breathing (Drinker and McKhann, 1986). Because of the high volume of patients appearing with polio, special areas of hospitals were separated and transformed into respiratory units with patients and ventilators placed next to each other (Figure 1). During the 1950s, respiratory or 'polio' units were established across Europe and North America. With the introduction of the polio vaccine in 1955, these units' function modified to respiratory 'support' or 'recovery' units thus extending their scope of practice from treating a specific condition (i.e. polio) to supporting a vital organ affected by any number of pathological conditions (Hunter, 1967).

[2] Poliomyelitis or polio is a highly infectious viral disease which can invade and affect the nervous system. If left untreated, polio could lead to muscle paralysis.

Figure 1: Los Angeles County Hospital during the polio epidemics of the 1950s (source: Drinker and McKhann, 1986)

The benefit of these 'support units' was soon recognised by clinicians. The concentration of resources in particular areas of the hospital served to improve the quality of healthcare and outcomes for patients with critical illness (Golin, 1958). In addition, the concentration of expensive equipment and highly skilled nursing and medical staff working closely where they were needed most was a way to contain rising healthcare costs (Golin, 1958). As more units were gradually developed a new patient classification system was devised based on patients' degree of illness and dependence on the nurse rather than by disease, namely 'progressive patient care' (Raven, 1962). In progressive patient care, there was a call for the development of ICUs for critically ill patients who needed and would benefit primarily from constant nursing attention. In the UK, an interim report of a departmental working group for the Ministry of Health (MH) recommended the wider establishment of ICUs in the UK while associated funding to establish these followed (MH, 1962).

In subsequent decades, there was an expansion of ICUs in the UK. The rapid ageing of the population and the increase in co-morbidity disorders necessitated intensive intervention and attention. A number of reports from hospitals appeared in medical journals in which individual experiences from setting up such units were detailed (e.g. Crocket and Barr, 1965). In these it was argued that the increasing amount of complex

and expensive apparatus which needed to be assembled in the vicinity of critically ill patients, combined with the difficulty of having enough highly trained nursing staff with the technical knowledge to make best use of this apparatus, made it clear that patients needing such intensive care should not be scattered around the hospital but should be assembled in a single location.

For healthcare professionals in the 1960s, the benefits of an ICU were clear and included the: a) prospect of providing a very high standard of medical and nursing care for the seriously ill patient, which enabled patients to survive in an ICU who would inevitably die in any other ward in the hospital; b) ability for nurses to carry out observations and measurements on patients at much more frequent intervals than was possible in a busy general medical or surgical ward; c) possibility of direct access to critically ill patients at any time of the day or night without upsetting ward routine; and d) opportunity for ICU nurses to play a much more intimate part in patient care than they did on other wards (Crocket and Barr, 1965).

During the 1960s, a working party of the British Medical Association (BMA) undertook a survey of 15 ICUs across the country to assess the state of ICUs' development. It concluded that there was no consistent approach and that more details regarding the nature of work in ICUs was needed (BMA, 1967). The gold standard for nurse staffing in ICUs was also introduced in this report and set at a ratio of one nurse for each patient. Following the BMA study, a number of reports were published elaborating individual experiences and evidencing the wide adoption of ICUs (Campbell *et al.*, 1967; Jones, 1967; Burn, 1970). Support from the DH was forthcoming as ICUs were regarded as a cost-effective option to providing intensive medical and nursing care. For example, it was recommended that all district general hospitals form ICUs and that ICUs should account for at least two per cent of total acute hospital beds (DHSS, 1970).

The expansion of ICUs, however, remained largely unplanned and uncoordinated, based instead on local clinician initiative, inevitably learning through trial and error. This uncertain and idiosyncratic development of ICUs in the UK mirrors development of the service in North America. In interviews with retired ICU nurses, Fairman (1992) found descriptions of early intensive care as an experiment, where ICU nurses and

doctors had to learn together about this medical specialism and adapt their practice as it developed. As new surgical techniques were developed, new monitoring equipment used and new ways of providing treatment were introduced, nurses and doctors had to learn how to adapt and develop their practice in response.

In the UK, reports such as by Jones (1967) and Clark *et al.* (1971) described at length the lessons learned in developing and operating an ICU such as the importance of having a high staff-to-patient ratio of dedicated teams of medical and nursing staff complemented by available technology. However, such reports drew primarily on individuals' experiences as opposed to rigorous primary research and so minimal data were available for comparisons between units to be made or for best practice to be exchanged.

Subsequently, small-scale research from local units across the NHS was conducted, mainly focussing on organisational and service delivery aspects. For example, Jones *et al.* (1979) surveyed post-ICU patients' views regarding their stay but found that although reported they were satisfied with the care they received patients had little recollection of their stay. Houghton *et al.* (1984) reported how efficiency in their ICU improved following admission of less critically ill patients, referred to as high dependency patients. Such local research reports, however, had no means of standardisation regarding either their data collection or reporting process, which again does not allow for comparisons or generalisable findings to be drawn.

While ICUs were being established and the service continued to expand, concerns regarding their effectiveness were raised due to the lack of a standardised approach to, and limited information on, the nature of ICU work. In particular, variation in patient outcomes was a key concern. Research in North America compared mortality outcomes from ICUs in a sample of 5,030 patients from 13 hospitals examining diagnosis, indications for treatment and condition severity scores, and identified mortality rates between ICUs to be dependent on the quality of collaborative working between nurses and doctors (Knaus *et al.*, 1986). Doctor-nurse quality of working was examined through professionals self-reporting on a five-point scale the extent to which they were satisfied with elements of communication, coordination, leadership and problem-solving procedures. In particular, units with better mortality rates scored

higher in interaction and coordination elements between these health professionals. In units rated more highly on quality of collaborative working, 55% more patients survived than were expected to, while in the worst rated units 58% more patients died than were expected to (Knaus *et al.*, 1986). Similar findings were identified a few years later in a larger North American study of 42 ICUs and over 17,000 patient cases (Shortell *et al.*, 1994).

In the UK, a King's Fund (1989) report found that while ICUs had achieved improvements in survival rates for conditions previously considered life-threatening, such as polio, evidence for the benefits of treatment for complex illnesses, from which the majority of ICU patients suffered, was inconclusive. Lack of valid data regarding patient outcomes and costing led to doubts about whether procedures undertaken in an ICU provided better results or reduced costs more than ward-based care (King's Fund, 1989). In response, a research consortium undertook a study evaluating methods of collecting data for the purposes of intensive care audit in Britain and Ireland, showing a lack of standardised measures, variation of outcome measures and mortality rates among ICUs (Rowan *et al.*, 1993). Subsequently, recommendations were made for a national audit centre through which standardised data could be collected, which led to the establishment of the Intensive Care National Audit and Research Centre (ICNARC). Set up in 1994, ICNARC set out to investigate ways in which the overall impact of intensive care might be monitored, using audit data collected through participating ICUs in England and Wales. In conjunction with ICUs, ICNARC started assembling, maintaining and developing a national database of case mix and outcome information on patients treated in ICUs.

In the meantime, however, further research continued to find varying degrees of success, length of stay and mortality rates between ICUs, recommending that early identification of patients at risk, both before admission and after discharge from the ICU, may allow treatment to decrease mortality rates (Goldhil and Summer, 1998). Metcalfe and colleagues (1997) found great variations among ICU patient outcomes and concluded that more evidence-based guidelines were needed to inform the development of the service. Additionally, comparative studies found that the UK had fewer beds allocated to ICUs than comparative healthcare systems in Europe and an

increase in the number of ICU beds by up to 35% was recommended, which would be achieved by developing new units and expanding existing ones (Vincent *et al.*, 1997).

Following a severe flu epidemic that drew attention to the lack of ICU beds in England in 1999, an audit of ICUs was conducted by the Audit Commission resulting in the highly influential report, 'Critical to Success' (Audit Commission, 1999). The report highlighted massive variations of ICU provision, costs and survival across England, leading to the conclusion that the establishment of ICUs in the UK had been 'unplanned and haphazard' (Audit Commission, 1999:7). Following this report, a review of intensive care services by a panel of ICU professionals, policymakers and educationalists followed and in 2000 a new vision of intensive care services was put forward, namely 'Comprehensive Critical Care' (DH, 2000b). This new policy document set out recommendations for improving or 'modernising' intensive care services with a substantial investment of £142 million. In 'Comprehensive Critical Care', the ICU was revamped into a service based on severity of illness and level of care required, rather than on a patient's location in the hospital (DH, 2000b). Towards this goal a new classification system was introduced to identify patients' needs, which is still in use today. Based on four levels, this classification ranges from 'level 0' where patients' needs can be met through normal care received in an acute hospital ward, to 'level 3' where patients require multiple organ support in an ICU (Table 1). Moreover, the DH acknowledged the ICU as only one part of the path through which critically ill patients go in hospitals and recommended that the physical and organisational boundaries between the ICU and the rest of the hospital be broken down in order to provide a more integrated service (DH, 2000b).

Table 1: Classification of patient needs (DH, 2000b)

Level 0	Patients whose needs can be met through normal ward care in an acute hospital.
Level 1	Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team.
Level 2	Patients requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care.
Level 3	Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure.

Overall, the recommendations put forward in 'Comprehensive Critical Care' (DH, 2000b) have been found to be successful in improving ICU service provision and patient outcomes (Hutchings *et al.*, 2009). For example, an evaluation involving 96 ICUs and over 340,000 patient admissions in England found that in the six years following 'Comprehensive Critical Care' (DH, 2000b) patient mortality after adjustment for case mix fell by 11.3%, accompanied by reductions in transfers between units and unplanned discharges (Hutchings *et al.*, 2009). However, the retrospective nature of their research did not allow causality to be directly examined. Therefore, the extent to which these improvements could be directly attributed to the particular policy change, and not for example to advances in drugs, technology and medical knowledge, is debatable.

In the reports examined thus far, issues regarding the organisational efficiency of ICUs at a macro-level were identified, including issues around service planning, level of care and patient mortality. However, in these reports, actual health professional work in ICU was not examined and particular issues around the ways ICU professionals coordinated their efforts and organised their work were omitted.

It was not until after the 'Comprehensive Critical Care' (DH, 2000b) policy report that the ICU workforce began to receive attention. In particular, there were increasing calls for interdisciplinary approaches to new ways of working in intensive care, with an emphasis on shared core knowledge, collaborative working and flexibility (Williams *et al.*, 2003). Acknowledging that demand for intensive care was increasing, as a result of an ageing population with increased co-morbidities, Williams *et al.* warned of an impending shortage of ICU staff and called for flexible ways of working in intensive care with role expansion for nurses and allied health professionals. These arguments were also driven by the need to comply with the European Working Time Directive in which the working week was reduced to no more than 48 hours (EC, 2003). The provisions of this Directive were phased, with the medical working week reducing initially to 58 hours in 2004 and subsequently to 48 hours in 2009.

In response to this impending ICU workforce shortage, the Adult Critical Care Stakeholder Forum was formed in 2004 whose membership of around 30 was drawn

from the DH, Intensive Care Society and several Royal Colleges, and which in 2005 published 'Quality Critical Care' (DH, 2005b). Here the importance of 'Comprehensive Critical Care' (DH, 2000b) was re-emphasised and recommendations were set out for healthcare professional roles to be redesigned and new roles developed to improve patient care. As doctors' hours reduced, nurses, pharmacists, physiotherapists and other allied health professionals were encouraged to take on more advanced roles and responsibilities; this led to the establishment of intensive care consultant nurses, pharmacists and physiotherapists (DH, 2005b). These roles aimed to both improve patient outcomes and recruit healthcare professionals by offering enhanced career opportunities. These new roles were argued to result in increased multidisciplinary input to ICU care, and improvement in local leadership and staff retention (Horn and Jacobi, 2006; Dawson and Coombs, 2008).

To examine the implications of these workforce policies on ICU staff's work a multiple case-study research was undertaken in seven English hospitals (Durand *et al.*, 2010). Durand *et al.* conducted 45 semi-structured interviews with a range of ICU professionals concerning their perspectives about key changes they had noticed in their practice. Staff reported experiencing a breaking down of boundaries between the ICU and the rest of the hospital, and an increase in multi-professional working in the ICU to include allied health professionals such as pharmacists and physiotherapists who reported an increased appreciation by their ICU colleagues (doctors and nurses) of their abilities to contribute (Durand *et al.*, 2010). Despite this being a positive finding, it is limited in portraying a smooth integration of allied professionals into the established ICU team of doctors and nurses with little insight into how this integration was managed in practice, and how different viewpoints were accommodated in day-to-day ICU work.

Reports from North America indicated that Durand *et al.*'s (2010) findings represent international trends likely to gain momentum as healthcare costs continue to rise, since decentralisation and inter-professional work is believed to drive quality and efficiency while reducing costs (Amaral and Rubenfeld, 2009). Kim *et al.* (2010) examined ICU patient data from over 107,000 patients from 112 hospitals and compared these with organisational survey data from those hospitals regarding the

use of inter-professional approaches to ICU work. They found that the use of an inter-professional approach in ICU rounds and patient care decision-making, which included allied health professionals such as physiotherapists and pharmacists in addition to doctors and nurses, to be associated with significant reductions in the odds of patient death. These findings indicated the potential value of collaborative work in ICUs between doctors, nurses and allied health professionals, and emphasised the necessity of developing evidence-based strategies to improve inter-professional work approaches in intensive care. However, the descriptive nature of this research lacks the depth required to identify the intricacies involved in the work of health professionals in ICUs to inform the development of relevant strategies. In-depth work investigating the actual day-to-day workings of ICU professionals, in particular the extent to which new role developments have been meaningfully introduced in the service, and the effects they have had, if any, on the organisation of work and division of labour remains scarce.

Conclusion

The examination of the literature concerning the intensive care service in the UK, from its inception to its current state, reveals that a dramatic shift has taken place regarding the overall organisation and delivery of ICU care. Intensive care has evolved from a service developed in an ad-hoc manner to a hospital specialism, demand for and scrutiny of which continues to rise (Vincent and Singer, 2010). This is particularly relevant in a policy context where care for chronic illness is increasingly shifted to community care settings, with the hospital consequently becoming increasingly focussed on acute care (DH, 2010).

In the UK, policy attempts since 2000 have focussed on encouraging an alternative organisation of ICU work in a decentralised system with inter-professional working. Role extension and expansion for nurses and allied health professionals is particularly favoured. However, the actual implications this new organisational context can have on the organisation of health professional of work in ICUs are unclear. An insight into the actual processes of health professional work in intensive care is needed to inform

the development of future policies and practice recommendations, ultimately serving to improve the quality of healthcare provision for ICU patients.

The current research therefore was designed in response to the aforementioned concerns and aims to examine health professional work in ICU in order to draw out the associated interplay of context-specific factors and social processes through which clinicians accomplish their day-to-day practice. It investigates health professional work in contemporary ICU settings within the theoretical lens of the 'division of labour', a key sociological concept which has been deployed in investigations of a similar nature in hospital environments in the past (Allen and Hughes, 2002; Allen and Pilnick, 2006). Therefore the sociological literature on the division of labour is the focus of examination in the next chapter.

Chapter Three: The Theoretical Frame of the Study

This thesis is informed by an interactionist perspective to the division of labour drawing from the Chicago School tradition and the work of Hughes (1928), Strauss *et al*. (1964), Freidson (1976) and Abbott (1988) in particular. Taken together, these ideas constitute the theoretical lens through which this thesis is approached. The purpose of this chapter is to examine these key theoretical positions as they pertain to the current thesis and justify why they have been chosen. By doing this, the theoretical lens through which the research is approached and the current thesis is developed are made transparent.

The chapter is presented in two main parts in which the division of labour is firstly introduced briefly and then critically examined in depth. Initially, the concept of the division of labour is introduced through the early writings of Plato and Xenophon in order to acknowledge its origins and history. Durkheim is then considered briefly in order to pay tribute to the sociological heritage of this concept, which set the foundations of much contemporary research.

The chapter then examines more recent theoretical approaches, particularly those of the Chicago School tradition and the studies of EC Hughes. In particular, it is shown how Hughes' early ideas have developed with time and been elaborated upon by Strauss *et al*. (1964), Freidson (1976) and finally consolidated by Abbott (1988). Examination of these Chicagoan scholars and their common intellectual heritage is meaningful to the extent that they were concerned with investigation of the division of labour as social interaction and developed this sociological concept further. Moreover, they all used healthcare settings and health professionals as the grounds in which to undertake aspects of their research and develop their theoretical ideas. Consequently, these early works have informed many contemporary analyses of health professional work of the kind proposed in the current research.

Early philosophical and economic conceptions of the division of labour

An early expression of the division of labour can be traced back to the philosophy of Plato (424–348 BC). In the ‘Republic’ (380 BC cited in Davies and Vaughan, 1914),

Plato wrote: 'Well then, how will our state supply for its needs? It will need a farmer, a builder, and a weaver, and also, I think, a shoemaker and one or two others to provide for our bodily needs'. For Plato, the state originated from and consisted of the differentiation of workers among people expressed in the division of labour. Social organisation for Plato appeared to rely on the differentiation and complementarity of work roles in the state. Unlike Plato, Xenophon (430-354 BC) discussed the division of labour not in terms of societal roles, but in terms of the specialisation of aspects of work. In 'Cyropaedia' he wrote:

> In small towns the same man makes couches, doors, plows and tables… And it is impossible for a man of many trades to do all of them well. In large cities, however,… one man makes shoes for men, another for women, there are places even where one man earns a living just by mending shoes, another by cutting them out, another just by sewing the uppers together, while there is another who performs none of these operations but assembles the parts. Of necessity, he who pursues a very specialised task will do it best. (Book VIII 2.5 cited in Holland, 1632)

Xenophon then appeared more economically minded than Plato, theorising the division of labour in terms of productivity. The issue of difference between Plato and Xenophon therefore was whether the division of labour is a technical means employed or enforced to improve productivity of work, or whether it is itself the basis from which social organisation emerges in wider societal and work-specific settings. This indicates a difference in analytical focus from macro to micro. Within the context of healthcare for example, the division of labour may be perceived as either the coming together of different workers holding different roles and working jointly towards the delivery of healthcare, or as the mere division and execution of distinct sets of tasks by different classes of workers. This difference in focus for the analysis of the division of labour between Plato and Xenophon appears to have persisted through the years and to form part of the debate among early theorists and sociologists of work, the most notable of which is the Scottish utilitarian economist Adam Smith. This is where the discussion turns next.

A specific expression and analysis of the division of labour can be found in the field of economics and particularly in Adam Smith's work (1723–1790). During Smith's period, particularly the mid-eighteenth century, the new industrial system in England had

broken up trades and production into many specialised activities, resulting in a 'state of complication' (Ferguson, 1980:182). Smith was concerned with an analysis of the growth of productivity and capital, while advancing an argument for an economic policy that would lead to 'universal opulence' (national wealth). In the 'Wealth of the Nations' (1776), Smith argued that the division of labour increases the productive powers of labour and hence the capacity for wealth creation. In contrast to Plato and aligned with Xenophon, for Smith the division of labour was composed of redefining tasks as opposed to social roles.

The basis behind this form of social organisation lay, for Smith, in people's natural propensity to exchange one thing for another, which integrates human diversity into even more complex divisions of labour (Ferguson, 1980). In a society in which people by themselves are unable to meet all of their own needs, needs are met by appealing to the self-interest of other individuals (Law, 2011). Smith (1776) wrote 'Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of.' (Book I, chapter II) Given that, according to Smith, exchange produces the division of labour, which in turn produces greater social wealth, then universal opulence rests on a market society. Work-related tasks, in Smith's writings, were not within the control of those who performed them. Instead, these formed part of a functionally interdependent and efficient productive system. Though Smith's views have been challenged by contemporary critics of the application of market principles to healthcare (e.g. Mossialos *et al*., 2002) he was also careful to propose a more nuanced philosophical view of human behaviour and introduced the notion of moral sentiment. In particular, he argued for sympathy – identifying with the emotion of others – as a motivator of behaviour operating in combination with self-interest. It is this dual dynamic which is most in tension within the division of labour in healthcare. In ICU, for example, patient survival relies heavily on the coordinated work between the different healthcare professions, in which compromises may need to be made to ensure a positive patient outcome. Therefore, self-interest alone is unlikely to be the main driver in shaping the division of labour in

the ICU. An alternative conceptualisation of the division of labour was put forward by Durkheim, whose thesis is examined next.

Classic sociological writings on the division of labour

In contrast with Smith's utilitarian economic approach, more classic sociological writings on the division of labour, such as by Durkheim (1858–1917), examined work and the division of labour more clearly as the basis of social organisation. Allen and Pilnick (2006) argued that Durkheim appeared to have shared similar concerns as expressed by the French social theorist Saint-Simon (1760-1825), whose position was different from Smith's. To clarify, Saint-Simon also valued industrialisation as key to societal change but, unlike Smith, he did not see self-interest and exchange as the basic driver. For Saint-Simon, the most elemental aspect of human existence was the necessity to produce the means of subsistence (Lee and Newby, 1983). In that respect, he argued for 'work' as the basis of true equality in society, which he regarded as 'the ensemble and union of men engaged in useful work' (L'Industry, 1817 cited in Tiryakian, 2009). Durkheim in particular had a thorough familiarity with Saint-Simon's ideas, and credited him with being the first to have a clear idea of the science of society (La Sociologie, 1915 cited in Tiryakian, 2009). For Saint-Simon, and in contrast to Smith, self-interest divided men more than it united them; self-interest was in fact a passion which, unless restrained, would lead to the dissolution of society rather than to its reinforcement.

Therefore, the principle of self-interest and exchange as outlined by Smith was, for Saint-Simon, unlikely to be an adequate principle of social organisation. Consequently, in translating these principles in the field of work, the argument could be made that individual interests may not be adequate as a principle for organising work, but rather a moral principle may be needed as a complement. In healthcare settings, for example, attending to physiologically vulnerable members of society, and thus upholding a patient-centred concern, may be the moral principle through which the social organisation of the health service is accomplished. Saint-Simon's concerns are clearly expressed in Durkheim's 'The Division of Labour', although Saint-Simon is not cited explicitly within that work. Durkheim's was interested in the question of how

differentiation might coexist with social solidarity (Hughes, 2002). He was primarily concerned with the persistence of integrative norms and cooperative behaviour, particularly where specialised occupational roles had developed. The contemporary healthcare setting, with its focus on inter-professional cooperative work, would then appear as a particularly appropriate environment for Durkheim's positions.

The division of labour in society

Unlike other scholars who aimed to interpret the social organisation of the division of labour as something artificial, Durkheim argued precisely the reverse: 'The division of labour can be effectuated only among members of an already constituted society' (Durkheim, 1933:275). Durkheim insisted that the division of labour was socially regulated, and was not a mere aggregate of individually contracted exchanges (Freidson, 1976). Durkheim (1933) observed that the developments of the nineteenth century, with the 'mechanisation' and 'concentration' of capital and forces, had led to the extreme division of labour. For Durkheim, the term 'division of labour' was used to refer to the occupational specialisation of society and the division of social life into different activities and institutions (Allen, 2001). This division of labour, according to Durkheim, was increasingly becoming a feature of social life. Increased specialisation within society, Durkheim argued, led to mutual interdependence and therefore contributed to the maintenance of social order (Allen, 2001).

Durkheim examined the division of labour in terms of the biological metaphor of the organism. The 'social body', Durkheim posited, resembles organisms in which specialised sub-systems perform different functions:

> the law of the division of labour applies to organisms as to societies: it can even be said that the more specialised the functions of the organism, the greater its development. […] It is no longer considered only a social institution that has its source in the intelligence and will of men, but is a phenomenon of general biology whose conditions must be sought in the essential properties of organised matter. (1933:41)

In Durkheim's view, compatibly with Saint-Simon, economic calculations of interest, as reflected in contractual exchange, did not seem to provide a stable basis for cooperative behaviour over time (Hughes, 2002). Instead, Durkheim viewed the division of labour as a social fact to be explained in terms of social structure.

Compatibly with Saint-Simon, Durkheim (1933) finds that occupational groups constitute their own corpus of moral rules to which occupational members ascribe. In this way, the occupational structure of society has taken over the moral functions previously performed by traditional social structures such as religion or family, providing the new basis for social cohesion (Allen, 2001). Durkheim is critical of Smith's focus on self-interest and exchange, positing that the operation of exchange contracts depended in the first instance on an unwritten substratum of norms and mutual obligations, referred to as the non-contractual basis of contract. This served as a precondition for the mutual trust on which exchange relationships depended, and which would ensure that contracts were honoured (Hughes, 2002). The increasing differentiation of human endeavours contributes to social cohesion because 'accentuated difference increases interdependence and the need for co-operation' (Hughes, 2002:25). Different people performing different tasks or roles need to find a structure to rely on others for some things if their needs are to be met. Therefore, the function of the division of labour is more moral than economic; specialisation, Durkheim concludes, is the source of and not the problem with social cohesion. In this sense it could be suggested that the more specialised healthcare roles become, such as within particular specialist settings (e.g. ICUs), the greater the opportunity for cooperation between health professionals since the interdependencies between them become greater.

However, for Durkheim, different occupations can only coexist peacefully in society as long as they pursue different objectives: the more similar their functions become and the more points of contacts they have, the greater the risk of conflict arising (Allen, 2001). Therefore, Durkheim recognised that occupational competition is key to professional development. For instance, he noted that where similar enterprises struggled for survival in competition with each other, some had to disappear or transform, which often led to new specialisms. This involved a re-allocation of functions as successful enterprises expanded their operations to take in new tasks while weaker ones retrenched to concentrate on only some parts of the total work they previously undertook (Hughes, 2002). The possibility of conflict arising among health professionals can therefore be seen to be high, given that their functions are

very similar, especially in highly specialised settings such as ICUs. Moreover, considering that to coexist health professionals would require the setting of different objectives, it is also likely that there would be an effort to distinguish their unique contributions to patient care in order to compete successfully.

Durkheim was optimistic in signifying the function of the division of labour in creating social solidarity, while focussing on its spontaneous character and integrative consequences (Allen and Pilnick, 2006). However, Durkheim paid less attention to precise notions of explicit coordination, while the effects of differential status and power remained undeveloped (Davies, 1979). For example, in ICU different professions such as doctors, nurses, pharmacists and physiotherapists hold different occupational status, which is likely to influence the shape of the division of labour. In this sense, Durkheim's macro-sociological views on occupational competition, though providing a wider framework within which to examine the division of labour in ICU, provide little insight into the dynamics of professional interaction in day-to-day practice.

More contemporary theorists, building from Durkheim's work, also recognised the importance of studying the interrelations between social groups and institutions in a wider field of action. This led to the development of the interactionist approach to the division of labour, largely from the work of EC Hughes and his students at the Chicago School of sociology. The Chicago School was concerned with documenting the range of different patterns of life to be found in the city, and how these were shaped by the developing urban ecology (Hughes, 1971). The wider sociological concerns of Chicago sociologists were with the analysis of collective social action, in particular how members of society accomplish joint activity through language and other practical activities (Atkinson and Delamont, 2005). The key scholars in this interactionist perspective are examined next.

The interactionist perspective to the division of labour

In this second part of the chapter the interactionist perspective to the division of labour is detailed and key ideas of prominent theorists in this tradition considered and critiqued. First, the ecological concerns of Hughes (1928) are examined in which he

argued for the interdependent nature of work within a division of labour. This is followed by a turn to the interaction order and the approach taken by Strauss *et al*. (1964) who emphasised organisational life being routinely accomplished by professionals in day-to-day practice. Structural concerns that set broad and permissive limits within which professionals' practise are then examined as detailed by Freidson (1976). Finally, the way in which Abbott (1988) consolidated the above ideas in his theory of work and 'System of Professions' is the focus of more sustained and critical examination in the concluding section of the chapter. The key concerns of these theorists *vis a vis* the division of labour are summarised in Table 2 and examined in more depth in the sections that follow.

Table 2: Key concerns among Hughes, Strauss, Freidson and Abbott on the division of labour

	Theoretical concerns	**Nature of the division of labour**	**Theory based on**
Hughes	Ecological	Organic	Fieldwork, Observational data, documentary data, historical sources
Strauss	Interactional	Negotiated	Fieldwork, Observational data, documentary data
Freidson	Structural	Dominant	Fieldwork, Historical sources, documentary data
Abbott	Historical	Competitive	Fieldwork, Historical sources, documentary data

The legacy of EC Hughes

At the University of Chicago, EC Hughes (1897–1983) developed a programme of observational research using the city and streets of Chicago, including its workplaces such as hospitals, as a natural laboratory for investigations of everyday life. His more abstract sociological concerns were with the way urbanisation and industrialism brought and mixed different kinds of people together (Hughes, 1984). In his teachings he drew from the work of Durkheim, but, while insisting that all organisation of work consists of differentiation of function, he was critical of Durkheim's concept of the division of labour and his views on the 'social organism'. While Hughes did not entirely reject Durkheim's notion of a social organism, his focus shifted from the single organism, the social body in which Durkheim referred to a multiplicity of social organs and their ecology. He wrote:

> The division of labour represents a series of exchanges between communities whereby these communities become involved as functioning parts of a larger community. This larger community, however, has no common conscience, or only a very tenuous, abstract one. As the division of labour proceeds, the life of each social organ is more conditioned by the others; the forces which hold it in place come to include neighbours as well as the soil beneath one's feet. It is this pattern of social organs, treated spatially, with which human ecology concerns itself. (Hughes, 1928:756)

The then traditional concept of the division of labour, Hughes argued, emphasised division but neglected the integration and relations among functions. The division of labour, for Hughes, did not represent merely an allocation of mechanical or mental operations (activities, tasks) but of allocation of social functions. He argued that the logic behind the division, and combination, of activities and function into occupations, and of their allocations to people in various systems of work, should not be assumed as given. Therefore Hughes was not concerned merely with describing a particular division of labour but with identifying the social processes through which a particular division of labour was developed and maintained. The division of labour, he argued, implies interaction because it consists not merely of the different kinds of work people do, but because the different tasks and accomplishments so divided are all part of a whole whose product people contribute to (Hughes, 1956). Although an occupation may appear to consist of one (or many bundles of) activity, it takes an extremely rationalised organisation to keep it so.

To Hughes, it is impossible to describe the job of one kind of person without looking at the work of others. According to Hughes, this sets the focus on the *frontiers* between one person's work and the work of other kinds of people, and there are as many frontiers as there are kinds of people in an organisation. Every frontier consequently becomes an area of both necessary cooperation and of possible conflict. Within the context of an ICU, for example, a number of professional frontiers exist such as between nurses and doctors, nurses and pharmacists, pharmacists and doctors, etc. and all these could be areas of both collaboration and conflict.

Hughes (1956, 1971:309) submitted that 'no line of work can be fully understood outside the social matrix in which it occurs or the social system of which it is part.' Hughes identified that the institutional matrix is becoming more complex as there are

increasing numbers and different kinds of workers in a division of labour ever changing in its boundaries between one person's work and another's. Moreover, it is not the numbers of people as such which interferes, but rather the differing conceptions of what the work is or should really be; what particular parts people in different positions should play; and what should their proper responsibilities be (Hughes, 1956). Consequently, in the context of the current thesis the study of the division of labour in ICU includes an examination of the system of work from the viewpoints of everyone involved in it, whether their position is high or low and whether they are at the centre or near the periphery of the system. This translates into examining the work of doctors and nurses, as the centre of the system, but also of allied healthcare professionals as those near the periphery.

Hughes also described that as medical knowledge evolves and new approaches are introduced into healthcare, other workers outside of the traditional hierarchy enter and find a place in the medical effort. This could lead to tensions arising as workers of different ranks jokey for position. For example, in the intensive care setting, the role of pharmacists is increasing in scope, thus entering a field (prescribing) traditionally dominated by doctors; the possibility for tension is likely to be high.

Hughes' theorising was very influential among his students and has been elaborated upon through subsequent research. In particular, Anselm Strauss (1916–1996) drew heavily on Hughes's work throughout his observational studies on psychiatric institutions and acute hospitals (1964; 1985). It is through this work that Strauss developed his 'negotiated order' approach. In this way Strauss' approach complements Hughes' by emphasising the interactionist perspective to the division of labour even further and refocusing attention on the interaction order of day-to-day work. Given the focus of the current study with day-to-day health professional interaction in ICU, Strauss provides relevant insights with which to approach the thesis; these are examined next.

The negotiated order

Anselm Strauss (1916-1996) trained at the University of Chicago from where he inherited a curiosity for everyday life and observational research, with much of his

research looking at the social organisation of hospitals and the way in which clinical exigencies influenced medical work and patient care. In his ethnographic study of psychiatric work Strauss *et al.* (1964) found the psychiatric hospital to consist of a web of negotiations. While some rules and conventions about work tasks and occupational roles did exist, they mostly served as mere guides. In that study, there were various contingencies that were outside the jurisdictions of the various rules and which necessitated negotiating activity. Such negotiations were found to be affected by relative hierarchical positions, ideological commitments, periodic staff rotations, ward tensions and personal relations. The rules of the hospital, Strauss *et al.* argued, were the cause of the problems that required negotiation but specific solutions to problems were not determined strictly by rules. Strauss *et al.* (1964:313) took their arguments further to a more extreme position in which they argued that rules are not only structures that influence and can be influenced by work processes; rules themselves are negotiable:

> 'The realm of rules could then be usefully pictured as a tiny island of structured stability around which swirled and beat a vast ocean of negotiation. But we would push the metaphor further and assert what is already implicit in our discussion: that there is *only* vast ocean.'

Close examination of the formulation, change and application of rules indicated for Strauss *et al.* that there was a negotiated order within which rules fell. Rules were seen not as disembodied standards but as human arrangements. Rules, argued Strauss *et al.*, enter into current and future conduct in that actors define rules as relevant to situations, suggesting that actors then must define situations as either related or unrelated to specific governing rules. Rules therefore can be regarded as background in current consensus and foreground in current argument (Strauss *et al.*, 1964). Strauss' approach to the study of work as social interaction was clearly influenced by Hughes, however, the negotiated order perspective also appeared to break apart from Hughes' social ecology. Hughes, as noted earlier, viewed the function of individuals and groups as conditioned by that of others, and by the context in which that function takes place. Therefore, although Hughes was an advocate of social interaction he did not depart from the influence that existing social organisation and divisions of labour have on individuals' function. In this regard, Strauss'

negotiated order was ground-breaking, if not extreme, in encouraging research to move away from the study of the structure of social organisation and instead focus on the realm of everyday negotiating interaction.

An obvious vulnerability of the negotiated order perspective is that by claiming that everything is indefinitely negotiable, it is unable to deal with limiting factors in negotiation settings (Dingwall and Strong, 1985). In ICU, for example, healthcare professions provide care within the broad restrictions of their distinctive professions as well as local unit practices; for example, while ICU nurses can potentially challenge a medical prescription for their patient they cannot alter this without medical consent since they do not have prescribing rights. Because in acute medical settings, such as ICU, healthcare professions deal with patients who are at imminent risk of sudden deterioration and death, rules and procedures are likely to be more prominent compared to psychiatric hospitals where flexibility and negotiation may be the norm.

In later work Strauss (1978) referred to a 'negotiation context' and a 'structural context' to draw attention to extra-situational constraints on negotiation. With the former he referred to the structural properties entering very directly as conditions in the course of the negotiation itself, while with the latter he emphasised the larger context within which negotiations can take place. Strauss (1978:101) maintained that negotiations and structures have the potential to influence one another as the 'lines of impact can run either way'. While these ideas appear to have been an attempt by Strauss to make the interplay between negotiation and social structure analytically explicit, the link between the two remained rather unclear. For example, while he acknowledged that social structures, such as the DH (2000b; 2005b) ICU workforce modernisation policies, can 'pattern' negotiations, such as interactions between healthcare professionals in ICU, the means through and extent to which this can occur is less clear.

Moreover, Allen (1997), in an ethnographic study of nursing work in a UK general hospital, which was theoretically informed by Strauss' negotiated order perspective, identified that formal organisational structures can be modified even in the absence of face-to-face negotiations. Allen's findings challenge Strauss and question the usefulness of the concept of negotiation for practical research since it can be elusive

and lack conceptual clarity. Allen identified the day-to-day constitution of the nursing and medical boundary as the product of the interactions of the field actors and argued that a more meaningful approach would be to consider social order as continuously accomplished rather than negotiated. In this way, negotiation can be seen as but one of a number of possible processes through which social reality is routinely constituted (Allen, 1997). Allen's contribution strengthens and complements Strauss' theorising and provides a more useful approach for analysing the healthcare division of labour and professional interaction by not limiting this to instances of negotiation alone.

Freidson, a contemporary of Strauss and also a student of Hughes, sought to reposition the division of labour back into the study of organisations. His position (Freidson, 1976) extends Strauss' by theorising professional interaction within the context of wider structures, such as health policies. Given that professionals in ICU operate within regulatory restrictions and workforce policies, such as the DH (2000b, 20005b) modernisation policies for intensive care, Freidson's approach is relevant to the current thesis and is examined next.

The division of labour as social interaction

Freidson (1976) endorsed Strauss' focus on everyday interaction but his concerns were more structural in nature, drawing largely from historical sources and documentary evidence. He argued that the forces of social organisation are inseparable from the empirical division of labour since they influence the number of occupational roles, the selection and distribution of individuals through them, and even the content of those roles. In circumstances where professions are strong, he argued, proliferation and differentiation of occupational roles is resisted and their substance or content is stabilised and becomes highly resistant to change. For example, in healthcare, medicine has been argued to have enjoyed high levels of autonomy over its practice, such as through self-regulation, and to continue to resist incursions into its territory (Crinson, 2008; 2009). Similarly, Freidson argued that administrative authority can also influence the basis and substance of the division of labour. For example, health policies may have substantial effects over the establishment of components of the division of labour, such as through supporting

role development for nurses and allied health professionals into clinical settings such as ICU.

Freidson, however, also argued for worker control over the division of labour not so dissimilarly to Strauss. In particular, variations in power on the part of the participants can influence the basis and content of the division of labour. Principles of social organisation may persist, although as abstract models, and they are in a sense separate from the work activities they purport to order since, Freidson argues, they are diffused when translated into work:

> Individuals and groups are engaged in a continuous process of conspiracy, evasion, negotiation and conflict in the course of coping with the varying circumstances and situations of their work, in some sense shaping the terms, conditions and content of their work no matter what the formal mode of organisation being used to justify, control or conceptualise their activities. (Freidson, 1976:310)

Underneath formal legislation, Freidson claimed, there is an 'informal organisation' constructed and maintained by those actually engaged in doing the work. For Freidson, it is the interaction among workers and between workers and supervisors that determines how tasks shall be conceived, who shall perform them, and how they shall be performed. In the everyday world of work Freidson saw the division of labour as a process of social interaction in the course of which its participants are continuously engaged in an attempt to define, establish, maintain and renew the tasks they perform and the relationships with others which their tasks presuppose.

However, Freidson also warned that such interaction should not be assumed as entirely free. Social interaction takes place within social organisation, defined as individuals' collective attempts to control their work, and not independently of it; and it is social rather than purely and spontaneously individual. The interaction that takes place in the division of labour must be seen, according to Freidson, to operate within certain broad and permissive limits. Freidson argued that for the majority of time, the limits to interaction posed by such boundaries are sufficiently broad and permissive that a variety of bargains is possible for the participants. It is precisely in that practical variety where the division of labour is seen as, ultimately, a process of social

interaction whereby the participants create their own specialised jobs and work relationships.

Although both Freidson and Strauss drew heavily from Hughes, they moved away from Hughes' focus on social ecology and his emphasis on the complementarity of the function of groups of individuals contributing towards a greater ecology. The most influential attempt to reunite Hughes, Freidson and Strauss into a more contemporary framework of the social organisation of work is found in the work of another Chicagoan, Andrew Abbott (1988), and his work 'The System of Professions'. Although Abbott primarily wrote as a historian, he clearly acknowledged the Hughes tradition of observational studies as a great influence on him and to which he credited the pedigree of his work. Abbott's work is important here because it brings together several interactionist elements of the division of labour, such as Strauss' concern with everyday interaction, but sutures them within the wider system of social relations between professional groups. In this way, Abbott builds on from Freidson by emphasising the interdependence of different groups. Abbott's approach therefore can offer greater explanatory capabilities for the current thesis on the ICU division of labour by incorporating and linking together both structural and interactional concerns. Moreover, Abbott's theorisation focuses more clearly on inter-professional competition, which allows for the consideration of new actors entering the division of labour. Given the inter-professional nature of work in ICU, Abbott's approach provides important insights for the current thesis.

The system of professions

Although Abbott's (1988) thesis centred around a particular kind of work, that which is done by professions, and was primarily based on historical sources rather than actual observations of professional practice, it has wider implications for the sociological study of work (Allen, 2001; Hughes, 2002; Allen and Pilnick, 2006). His concerns were mainly historical and ecological, and his thesis appeared an attempt to consolidate both structural and interactional concerns into a unified theory of professional work, moving away from a preoccupation with structure and rather focussing on the content of professional work and on professionals' struggles for control of work.

According to Abbott, earlier theories of work organisation have been preoccupied with the form of professions and their structural position in society, and so paid insufficient attention to the content of professional work. Yet, Abbott argued, it is the content rather than the form of professional work that is changing, and 'it is control of work that brings the professions into conflict with each other and makes their histories interdependent' (1988:19). Therefore, Abbott argued that the professional task area should be the unit of analysis, and in particular the link between a profession and its work, which he referred to as 'jurisdiction'. As Abbott stated:

> Each profession is bound to a set of tasks by ties of jurisdiction, the strengths and weaknesses of these ties being established in the processes of actual professional work. Since none of these links is absolute or permanent, the professions make up an interacting system, an ecology. (1988:33)

This system is affected by wider social pressures, such as policies, which open and close areas of jurisdiction. For Abbott, it is the interaction between professions in the workplace as they compete for control over work jurisdiction that is critical and the proper focus of investigation. Here, Abbott, while drawing from both Freidson and Strauss in signifying the importance of social interaction, makes a firm return to Hughes in calling for a study of professional work within a wider ecology which appears conditioned by outside social structures and in which professions remain interdependent. By employing the concept of jurisdiction Abbott provides the link through which social structure enters and conditions everyday professional interaction, which in turn may influence social structure through the mounting of jurisdictional claims that can be used to advance professional status.

Abbott argued that such jurisdictional claims can be made in or for several possible arenas or audiences, namely the legal or state, the public and the workplace. These three arenas or audiences for jurisdictional claims making are different in three key ways in terms of: the duration of jurisdictional settlements within them; their assumptions about the professional world; and the extent to which jurisdiction can be differentiated as well as the structures within which it can be enacted (Abbott, 1986). Firstly, jurisdictional settlements in the legal or state arena can be very enduring, lasting between twenty to fifty years, while public settlements can be less enduring, lasting between ten to twenty years. Workplace settlements by contrast with both can

be much less enduring where only a few months to at most a few years may pass before the pattern of jurisdictions can be renegotiated. Secondly, in the legal and the public arenas there is an assumption that all members of a given profession are the same. Therefore, jurisdictional claims making and disputes in the public and legal arena can be rare or can occur mainly between homogenous groups. In contrast, in the workplace arena it is acknowledged that there can be internal differentiation partly because differences in the competence between individuals become apparent during day-to-day practice and through the process of getting the work done within workplace exigencies (Abbott, 1988; Sanders and Harrison, 2008). Thirdly, and most importantly, in the legal arena jurisdictions can appear sharply differentiated; in the public arena they may be less sharply but still clearly delineated; however, in the workplace jurisdictional divisions can be extremely hazy. Thus while wider regulatory practices can impact the macro features of ICU work, for instance, and health policies the meso level, for Abbott, it is in the actual workplace that the details of jurisdiction are worked out through day-to-day professional interaction. This forms the clinical micro system of ICU work and the locale where professional interaction takes place. Here, the claims professionals make can blur and distort the official lines of legally and publicly established jurisdictions (Abbott, 1988). This is the arena where the organisational division of labour, formalised in job descriptions, is translated and established into actual working practices through negotiation and custom that embody situation-specific rules of professional jurisdiction. Abbott (1988:65) maintained that 'it is in the workplace, then, that the actual complexity of professional life insists on having its effect', and where 'boundaries between professional jurisdictions tend to disappear'.

In the workplace, Abbott submitted, jurisdiction is a simple claim to legitimately control certain kinds of work. While there is usually little debate about what the work consists of, the basic question is who can control and supervise which parts. Jurisdictions are exclusive and so a profession cannot occupy a jurisdiction without either finding it vacant or fighting for it. For Abbott, jurisdictional boundaries are perpetually in dispute and there can be different settlements to jurisdictional disputes. Professions can have full control of work jurisdictions at times, while at

others can have part or shared control, or control subordinate to another profession. For example, in ICU, nurses can have full control of minute by minute nursing care for their patient but share the jurisdiction over patient mobilisation with physiotherapists.

Abbott's system model shifts standard conceptions in that it recognises the interdependence of professional development, thus reversing the false assumption of the professionalisation concept that professions develop independently of each other. By highlighting social interaction in the workplace, and in the process of actual professional work, Abbott addressed another weakness of previous theories – the excessive attention to structure that led to their overlooking of actual professional work and interaction. Finally, Abbott's approach openly embraces the lack of long-term equilibrium in the professional world, as tasks are accepted as continually changing and jurisdictional weaknesses continually being challenged.

Abbott's system approach has been criticised by Macdonald (2005) as problematic, although his critique appeared largely a defence of professionalism rather than an actual examination of Abbott's thesis. At the heart of Macdonald's critique lay the concept of 'system'. For Macdonald, the notion of system implied a considerable degree of interrelatedness and interaction between the component parts and argued that professions compete 'in a market place where they may or may not impinge on each other' (2005:16). This, however, Macdonald did not substantiate with either previous research or empirical data. While it may be conceivable that not all professions may be in direct interaction or competition with each other, it is inevitable that points of interface can still be found. Within hospitals, for example, the delivery of healthcare depends on the direct and sustained interaction between doctors, nurses and allied health professionals who may all claim jurisdiction over aspects of healthcare work. While in this context Macdonald's criticism is weakened, it helps to raise awareness about the different professional boundaries that could be encountered within a system of professions and the importance of critically examining those for evidence of either competition or collaboration.

Another criticism of Abbott's work lies in the rather limited engagement with the epistemological assumptions that underpin his systems approach. An obvious concern lies with the difficulty of defining the limits of the system, which Abbott does not do

clearly (Allen, 2001). His definition of professions as those groups able to apply abstract knowledge to particular cases suggest his system could be limitless, however the emphasis on professions appears exclusionary of other kinds of work. This he acknowledged as a potential weakness of his work, but argued it to be necessary in order to shift focus from the structure of the professions to work itself.

A more important concern is to be found in what his system approach appears to suggest; that there is indeed a self-sustaining system operating in equilibrium that engulfs the professions and determines their fate. On the contrary, however, Abbott was not preoccupied with equilibrium or predictability. He placed professionals' control of work at the centre of investigation and identified them as the drivers of the system supporting that it is in the workplace and through day-to-day interaction that the work jurisdictions and boundaries that make up the system are settled. He also made clear that such settlements may not be fixed but rather change with time. In this way, Abbott remains within his interactionist heritage while acknowledging that professionals do not operate independently but interdependently. While this view may not apply in the same way in all fields of work, it certainly has resonance with hospital work and ICU in particular where different professions meet to provide healthcare. Moreover, unlike what his system approach might suggest, Abbott did not appear restricted to the study of the structural and organisational forms of professional work and instead shifted attention to the content of professional life and to the struggles of professionals among themselves. Inevitably, however, as primarily a historian he did not engage in depth with professional interaction at the level of daily practice in this particular work, as the current thesis seeks to do, but rather he mainly relied on historical and documentary sources; although, in earlier research in which he explored the profession of social work he did undertake extensive fieldwork including observation of everyday interactions and was in this way also familiar with the level of day-to-day practice. Abbott's analysis therefore, though astute and perceptive, does not provide the granular detail of everyday practice and interaction recounted in the current thesis.

Abbott also argued against views of professions as a closed system in which a profession may be seen as a clearly bounded analytical unit developed out of

functional specialization (Lamont and Molnar, 2002). Instead, Abbott argued for an open system in which individual professions exist in interdependence, competing for jurisdictions and the legitimacy of their claimed expertise, thereby constituting a constantly changing system of professions. Abbott viewed his system structure to provide mere constraint to professional development, not to act as a determinant. However, Abbott's emphasis on jurisdictional disputes and arguments for a fuzzy organisational reality may appear as underemphasising the role of structure and outside forces, such as health workforce policies. On the contrary, Abbott raised awareness of the different arenas or audiences for jurisdictional claims making (public, legal, workplace) and made a case for a link through which outside forces can directly influence day-to-day professional life; this link lay in the opening and closing of areas of jurisdiction, the effects of which require managing in the process of professional work. However, it is not clear whether Abbott identified his system as being analytically distinct from professional interaction, and the extent to which professional interaction shapes or is shaped by the system. In his work, the two actually appeared meshed and in a relationship whereby the one simultaneously shapes and is shaped by the other, although professional interaction appeared to hold analytical primacy. For Abbott, human actions can simultaneously be determined and chosen, and human realities can be both subjective and objective. In this sense, professions both choose and are forced towards exclusivism; they both find their work laid out for them and make it up themselves. Thus, professional work for Abbott appears to be a composite, interwoven process. Abbott's approach did not appear to call for a neglect of professionals for the study of the system of professions, rather his approach encouraged a move from a focus on the structure of professions to the content of professional work, jurisdictions over which are claimed and lost through professional interaction.

A further criticism of Abbott's (1988) thesis can be found in his own investigations of actual professional work. In particular, Abbott did not appear to examine in detail the nature and processes of professional interaction in day-to-day practice, like Strauss did. However, Abbott did state that actual working practices can be accomplished through situation-specific rules developed and maintained through negotiation and

custom. In this way, Strauss' influence appears clear even though Abbott's macro-sociological interest and historical concern have led him to focus more on identifying the contours of his system rather than on the ways in which these shape the context of professional practice.

In addition, there could also be issues with identifying professional competition and conflict at the heart of the history of the professions. Abbott's theory and his focus on professional dispute over jurisdictions in particular could suggest that changes in jurisdiction that occur without dispute could pass unnoticed or have less of a mark. Moreover, it could also mean that certain jurisdictions, that may be important for particular professions, could be paid less attention if they are stable and undisputed. Abbott's focus on competition, conflict and jurisdictional claims making also places stronger emphasis on workplace jurisdiction, rather than legal or public, even though the latter may be more enduring. Finally, Abbot acknowledged that he afforded professions a rather strong presence, almost a personhood, even though he introduced and raised awareness of internal differentiation within professions. In this way, he appeared to downplay issues potentially arising out of disagreements among members of a profession and has not fully addressed issues around group coherence.

Despite the above critique, Abbott's approach to the study of jurisdictional boundaries among different occupational groups made useful and important additions to the theory on the division of labour. It embraced and explained some of the mechanisms of inter-professional conflicts, which were paid insufficient attention by prior profesionalisation theories. It also acknowledged and showed how professions can both create their work and be created by it. Moreover, it explained why wider forces of social organisation do not have a uniform but instead an idiosyncratic effect on professions. At the very least, it provided a new set of assumptions and concepts through which to study professions, notably the concept of jurisdiction, which is the key analytical concept the current thesis draws from. Despite the potential gaps in his theory, such as the limited engagement with workplace face-to-face interaction, Abbott's theorisation has been shown to be useful in many analyses, particularly those related to the social organisation of health professional work (Allen, 2001; Allen

and Pilnick, 2006). The next chapter examines such recent examples in order to enable a flow from the general to the particular in terms of the division of labour theory.

Summary of the theoretical position and assumptions of the thesis

This chapter traced the key developments of the concept of the division of labour through the sociological writings of major scholars in order to make the theoretical lens through which the current thesis was approached transparent. Although the basic tenets of the concept persist, the major development can be traced from Durkheim's structuralism with its emphasis on delineating the structure of the division of labour and its effect on society, to the interactionism of Hughes, Strauss, Freidson and Abbott, with its focus on examining the constitution of the division of labour as social interaction. In particular, the latest exposition by Abbott presents the culmination of past efforts, attempting to bring together both structural and interactional concerns into a new synthesis.

Taken together, the interactionist perspective identifies a concern with face-to-face interaction at the level of everyday practice as the process through which professionals accomplish, within wider restrictions, the division of labour. However, as Allen (2000:329) notes: 'however central social interaction is to the division of labour, it is also the case that abstract conceptions of roles and responsibilities *are* made - in formal organisational policy and, in the case of certain occupations, in state legislature - and while they may not determine work boundaries in a straightforward way, they certainly help to fashion their contours.' It is precisely this delineation of professional roles, responsibilities, priorities and jurisdictions that the current thesis investigates within the specialised hospital area of the ICU.

The conceptualisation of the division of labour as social interaction is accepted as a major and vital approach to the sociology of work, particularly among contemporary writers (Hughes, 2002; Allen and Pilnick, 2006). Applied to the current thesis, this interactionist perspective to the division of labour offers the following four assumptions, which I used to theoretically ground the study. Firstly, drawing from Hughes (1928) I saw health professional work as operating within an interdependent ecology; Abbott (1988) referred to this as the system of professions. Secondly,

following Freidson (1976), I appreciated that outside structural forces, such as health workforce policies, do not determine health professional work but rather set broad and permissive limits to it; Abbott (1988) identified this as occurring through the opening and closing areas of jurisdiction. Thirdly, drawing from Strauss *et al*. (1964), I viewed the division of labour as being accomplished in the workplace; this according to Abbott (1988) is possible through professional interaction at the level of day-to-day practice. Fourthly, drawing from Abbott (1988) I expected the distribution of work jurisdictions in the workplace to be in perpetual dispute.

The current study examines health professional work in the setting of the ICU within an environment of policy reforms (DH, 2000b; 2005b) calling for a breakdown of professional boundaries and redistribution of professional jurisdictions. In this sense, while the different arenas – public, legal, workplace – in which jurisdictions can be pursued and settled are acknowledged, the concern of the current study is with one specific clinical arena; the ICU workplace is the primary arena of investigation. In this context, it is also acknowledged that the current thesis explores the extent to which changes in ICU workforce policies have introduced disturbances in the ICU division of labour and the means through which jurisdictional settlements were accomplished in day-to-day practice.

Conclusion

The division of labour has been an enduring concept in the sociology of work, successfully informing the conduct of much research in this area. Its robustness as a research concept has been validated, while the concept itself has been subject to continued refinement. The interactionist perspective to the division of labour is well suited to the primary concerns of this thesis of examining health professional interaction within the ICU and in the process of day-to-day practice. In addition, this theoretical lens has been deployed in past examinations of health professional work in general hospital medical and surgical wards with success (Allen, 2001). Utilising this approach in the current study of ICU, a different setting from that of past research, enables both an assessment of the extent to which this approach is useful in critical

care environments of the hospital and allows refinement and confirmation of the utility of this approach drawing from contemporary empirical data.

In the next chapter contemporary application of such theoretical approaches in research investigating health professional work, particularly in hospital settings, is examined and emerging research avenues identified. While there is a significant volume of research in this area, it will be shown that there is a need for detailed case studies of work, and particularly of intra-professional and inter-professional relations of the kind proposed in the current study.

Chapter Four: Health Professional Work in Acute Hospitals

The purpose of this chapter is to review key empirical research that has applied the theoretical ideas identified in the previous chapter to investigations of health professional work in acute hospitals. In doing so, the existing literature is critiqued and the gaps that the current research aims to address identified. Remaining mindful of Abbott (1988) and his attention to both the workplace and professional relationships, the hospital work environment and its division of labour are examined here.

The division of labour in hospitals is examined first. The research literature here appears to be centred on two arguments; that medicine dominates the hospital division of labour and that health professional boundaries and jurisdictions are dynamic and contested in practice. The literature indicates that while certain jurisdictions between health professionals are identified as flexible, the medical profession continues to exert substantial control over the hospital division of labour.

Secondly, key contextual characteristics of hospitals are examined and the extent to which they are found to challenge the organisation of health professional work is critically considered. Here, hospital complexity in terms of the nature of patient condition and its spatiotemporal order is examined first, and showed to introduce real challenges. This is then followed by an examination of professional tribalism and attempts to contain this through workforce modernisation. Different priorities, training and socialisation of the various health professions are shown to be a cause of friction and disagreements; however, their interdependency means compromises and agreements must be reached to provide integrated patient care.

The hospital division of labour

The working relationship between health professionals has been widely discussed in the literature, both in general and specialised medical settings such as ICUs, and can be characterised as a pendulum with either medicine dominating and setting the division of labour, or as nurses and allied health professionals gaining in autonomy and decision-making power. Freidson (1988) discussed how the working arrangements in hospitals invariably take on a ‘hierarchical character’ with medicine at the pinnacle,

overseeing the work, training and professional development of subordinate groups such as nurses and allied health professionals that assist rather than replace the focal tasks of diagnosis and treatment. Existing research in healthcare confirms how prevailing institutional arrangements tend to strongly favour the autonomy and power of doctors over other health professionals (Battilana, 2011). However, a contrasting argument also exists with growing evidence concerning the extent to which occupational boundaries in healthcare remain flexible, both in general and specialised settings such as ICUs (e.g. Hughes, 1988; Mesler, 1991; Porter, 1991; Allen, 1997; 2001; Powell and Davies, 2012). Understanding the nature of inter-professional work and the ways in which the health professional division of labour is managed in day-to-day practice is required to enable the development of more refined and resilient workforce policies that can facilitate the delivery of quality and safe patient care.

Medical dominance

Traditionally, doctors have been at the apex of the health professional hierarchy with their power deriving from both the social legitimacy of their mission and their exclusive ability to apply expert knowledge to particular cases (Crinson, 2008; 2009; Currie *et al.*, 2012). This has been described as 'medical dominance' (Freidson, 1988). Doctors achieve a dominant position in the division of labour because they not only exert control over their own work, but also over the work of other healthcare groups such as nurses and allied health professionals. As Freidson (1988:369) noted, 'the autonomy of the consulting profession... is an officially created organized autonomy…, not merely freedom from the competition or regulation of other workers, but... freedom to regulate other occupations... By its position in the division of labour we can designate it as a dominant profession.'

As noted in Chapter Three, to understand the relative positions of professionals in the division of labour it is necessary to focus on the ways in which they manage their relationships with other higher or lower status professionals (Hughes, 1951a,b; Abbott, 1988). In hospitals, the relationship between doctors and other health professionals is ambivalent since the latter serve an essential 'supportive' role to the former while concurrently posing a 'threat' to medical monopoly (Hughes and Allen, 2002). In order to contain this threat doctors use their knowledge as medical experts

to continuously attempt to contain other professionals in order to protect their own position. However, medical dominance does not occur through open coercion but largely through negotiated power and discursive hegemonic techniques where doctors manage their relations with other healthcare professionals in ways that preserve their authority (Larkin, 1983). Although more recent commentators have suggested that the logic of medical dominance may have been threatened by wider exogenous changes in the organisation and management of healthcare – such as the rise of consumerism, clinical risk management and new public management (Timmermans and Oh, 2010; Kirkpatrick *et al.*, 2011) – it remains the case that doctors retain a significant and powerful position (Battilana, 2011).

Of all professionals operating in the hospital it is doctors and nurses who take centre stage in the healthcare work drama (Hughes, 1971). Indeed, a number of sociologists have examined the relationship between doctors and nurses in general medicine (Stein, 1967; Stein *et al.*, 1990; Svensson, 1996; Allen, 1997; 2000; 2001; Snelgrove and Hughes, 2002), community (Griffiths, 1997; Hannigan and Allen, 2011) and critical care settings (Hughes, 1988; Porter, 1991; Zussman, 1992; Prowse and Allen, 2002; Coombs, 2004; Goodwin *et al.*, 2005; Carmel, 2006; Finn, 2008). Doctors and nurses may be considered simultaneously as symbiotically related professions and competitors, since they occupy complementary positions in the hospital division of labour and rely on each other for their work to be carried out effectively (Walby *et al.*, 1994).

Nurses have long been considered as subordinate to doctors, typically due to providing care which is less technical or specialist in nature (Freidson, 1988). In a seminal paper, Stein (1967) identified a central concern in the medical-nursing interaction. He argued that while doctors may find the acceptance of advice from nurses threatening to their omniscience, often they are required to do so in order to optimise their capacity to care. At the same time, while nurses were trained to respect doctors' decisions they realise that they also possess knowledge and skills useful to the practice of medical care. Stein argued that these paradoxes are resolved by means of an elaborate ritual which he coined the 'doctor-nurse game', involving the nurse providing subtle cues to guide doctors in their decision-making while avoiding overt

confrontation (Stein, 1967). Although the empirical basis of Stein's argument is weak and nearly 50 years old, based primarily on his analysis of one telephone conversation between a doctor and a nurse, it has been highly influential in conceptualising doctor-nurse relationships (Hughes, 1988; Porter, 1991). In follow-up work, Stein revised his original position, arguing that as a result of the declining image of the nurse as a handmaiden and the rise of professional consciousness, the subordinate relationship of nursing with medicine is not as straightforward with nurses more likely to overtly challenge doctors' authority (Stein *et al.*, 1990).

More recent British studies both in general medicine and critical care settings reaffirm medical dominance despite efforts to challenge this by other professionals, mainly nurses. Overall, health professionals appear to report collegial relationships with each other, but only on the surface (Snelgrove and Hughes, 2002; Coombs, 2004). A study consisting of interviews with both doctors (n=20) and nurses (n=39) working in general medicine in three UK hospitals found these professionals to initially report an idealised image of inter-professional working based on flattened hierarchies, greater opportunities for dialogue and shared participation in decision-making (Snelgrove and Hughes, 2002); however, further probing revealed a more complex relationship, with nurses seeking (but being unsuccessful in securing) a voice in patient care decisions and space to challenge medical decisions believed to be mistaken. Snelgrove and Hughes (2002) concluded that nurses and doctors used a discourse of teamwork as a rhetorical strategy for making occupational claims, not for coordinating their practice. While such a discourse was used to suggest equality, ultimately it was the doctors who managed and shaped decision-making in that study. Despite the differences in context between general medicine and intensive care, for example in terms of the level of nurse training, staffing levels and patient acuity, the above findings are reflective of research in ICU as examined next.

In an ethnographic study of three British ICUs concerned with how doctors and nurses work together to make decisions within the clinical practice setting, Coombs (2004) identified that despite good working relationships, with respect to decision-making nurses perceived doctors to be domineering. Decision-making in those ICUs was characterised as hierarchical, rather than egalitarian, where the ultimate decision for

any patient's treatment rested with doctors (Coombs, 2004). Coombs identified clear signs of doctors dominating clinical decision-making, which led to tensions and conflict between nurses and doctors. Although ICU doctors in Coombs' study perceived there to be good collegial working practice in their units, nurses reported finding difficulties in getting their contributions accepted, considered or validated by doctors and thus felt excluded from the decision-making process. This finding is also echoed in a North American ethnography of ICUs (Zussman, 1992). In that study, involving observations of ward rounds and interviews with staff in two ICUs, Zussman described ICU nurses as 'prima donnas', feeling unappreciated by doctors and complaining that their role remained unrecognised. Moreover, ethnographic work in an Australian ICU demonstrated that doctors tended to use nurses only to supplement information and provide extra details about patient assessments (Manias and Street, 2001). This practice led ICU nurses in that study to report encountering barriers to participating in ward rounds and patient discussions. For example, nurses were not consulted on the timing of the ward round and so were not always able to participate because they might have been on a break or had other patient care commitments. Consequently, by controlling the organisation and timing of the ward round in intensive care, ICU doctors appeared to exclude nurses from patient care discussions and the decision-making process (Manias and Street, 2001). The extent to which these findings are applicable to more contemporary ICUs in the UK, especially given the changes introduced to this service through DH policies (2000b; 2005b), remains to be seen.

Research conducted in general hospital (Snelgrove and Hughes, 2002) and specialist ICU settings (Coombs, 2004) concluded that doctors continue to view themselves as being responsible for specialist technical work and to view nurses as generalist professionals claiming the social domain as well as basic patient care as their territory. The knowledge and technical discourse used by consultants dominates the rationale for making treatment decisions put forward by nurses (Coombs, 2004; Finn, 2008). For example, Finn (2008), in examining the discourse used by surgeons, nurses and operating department practitioners (ODPs) in operating rooms through ethnographic data collected in a British hospital, identified that through their specialist knowledge and use of technical-instrumental repertoires doctors were able to legitimate their

power and material privileges over other professionals. Finn's findings suggest that legitimation of power and privilege was subject to doctors' use of such repertoires, which in turn suggests that legitimation itself needed to be accomplished in day-to-day practice and through interaction. Such findings have not been confirmed in the context of ICU, however, are likely to have relevance considering the recent role and educational advances for ICU nurses, pharmacists and physiotherapists which could afford them with greater technical knowledge through which to contribute to medical decision-making.

While nurses continue to emphasise the need for egalitarian working to achieve greater esteem from doctors (Snelgrove and Hughes, 2002; Coombs, 2004; Finn, 2008), research, particularly from intensive care, also identified that nurses do little to challenge doctors' authority, voice concerns or assume responsibility for patient care decisions (Zussman, 1992; Coombs, 2004). Nurses' position in the division of labour, which excludes them from making 'illegitimate claims', is attributed as the reason they fail to mount any challenge to the organisational and structural arrangements within which their disadvantage is perpetuated (Goodwin *et al.*, 2005; Finn, 2008). Analysis of anaesthetic sessions observed as part of an ethnographic study of expertise in anaesthesia in two NHS hospitals in the UK found that participation of nurses and operating department practitioners was capped in line with the legitimacy of their claim (Goodwin *et al.*, 2005). When particular interventions fell outside a nurse's remit, initiating action hinged on persuading other professionals to act. For instance, lacking legitimacy to prescribe care, nurses attempted to persuade other professionals whose role formally legitimated the necessary activity (Goodwin *et al.*, 2005). Goodwin *et al.*'s conclusion here contrasts with Finn's (2008) findings by implying that legitimation is a pre-fixed state within which professionals' participation is capped as opposed to a process managed in interaction.

Findings from recent North American research appear to confirm that the British situation is also reflective of the international scene (Reeves *et al.*, 2009). Findings from an ethnographic study exploring the nature of inter-professional interactions within two general and internal medicine settings in Canada – involving 155 hours of observations and 47 semi-structured interviews with health professionals (nurses,

doctors, dieticians and physiotherapists) – revealed that interactions between doctors and other health professionals were terse in nature (Reeves *et al.*, 2009). In contrast, interactions between nursing and allied health professionals such as physiotherapists were more in-depth in nature. Reeves *et al.* (2009) argued that a non-negotiated order (Strauss *et al.*, 1964) was in place between doctors and other professions with interactions involving doctors and other health professionals being rare. Moreover, when interactions did occur they were largely unidirectional such as from a doctor to another professional asking for clinical information or requesting a patient care-related task to be carried out. In addition, in inter-professional meetings, nurses and other staff were often reticent about engaging in dialogue that was predominately medical in nature. These professionals tended not to offer their perspectives on these types of exchanges and when they did their input was queried or overlooked. While these findings appear to confer a clear image of medical dominance, given the different health systems in Canada and the UK, especially following the DH (2000b, 20005b) modernisation policies, the extent to which these findings may apply to British ICUs is unclear.

Contested boundaries

Notwithstanding the power of doctors to shape a distinctive 'para-professional pattern' (Freidson, 1988: 50), it is worth remembering how boundaries in health organisations can also be subject to flux and change (Abbott, 1988), through professionals engaging in what has been described as 'boundary work' (Gieryn, 1983; Fournier, 2000). Boundary work can involve demarcating one profession from another and also demarcating disciplines, specialties or theoretical orientations within a profession (Gieryn, 1983). Boundary work as a concept was initially introduced to refer to the ideological style used by scientists towards framing a public image for their discipline. This process involves attributing selected characteristics to the institution of science in order to maintain a social boundary and distinguish it from non-scientific activities (Gieryn, 1983; Allen, 2000).

For example, through ethnographic work in a District General Hospital in the UK Allen (2000) examined the attempts of nurse managers to set the boundaries of clinical nursing in the context of role realignment. In that study, nurses were found to employ

'holism' in order to differentiate their approach from that of medicine and legitimate their occupational claims, while doctors constructed their discursive efforts to reduce nurses to the subordinate role of technicians. Allen (2000) showed how in healthcare occupational boundaries can be settled in the workplace arena through micro-political processes. Allen (2000), drawing from Strauss *et al.* (1964), suggested that in the workplace the accomplishment of occupational demarcation is a routine feature of everyday practice. However, evidence from intensive care settings paint a somewhat different picture. Carmel's (2003; 2006) ethnography of three British ICUs concluded ICU nurses and doctors developed a professional allegiance towards a common ICU project through which collaboration was fostered and the kind of boundary tensions identified by Allen (2000) and theorised by Abbott (1988) avoided. However, the extent to which the professional boundaries and jurisdictions between doctors and nurses in ICU were clearly demarcated and settled, and the process through which these were accomplished, was not the focus of in-depth examination in Carmel's study.

As examined in Chapter Three, boundary disputes can take place in different arenas with the workplace being a key site for making claims around the acquisition, offloading and control of tasks (Abbott, 1988). Occupational boundaries can be sites for dispute and competing claims, particularly when established professions perceive that other groups are attempting to trespass upon their turf. As already indicated, the medical profession forms the elite group in all healthcare systems and, as such, of all healthcare practitioners they have most to lose, since they have enjoyed the most important privileges, prestige and freedom to practise autonomously (Hunter, 1996). Therefore, research has primarily focussed upon the boundaries mostly of nurses, and less so of other allied health professionals such as clinical pharmacists, *vis-à-vis* doctors (Hughes, 1988; Porter, 1990; Mesler, 1991; Allen, 1997; 2000; Powell and Davies, 2012). Research suggests that it is the greater experience and tenure of nurses in wards, compared to medical staff, which augments their influence *vis-a-vis* doctors (Mumford, 1970; Hughes, 1988). Moreover, nurses have an important role in the training of junior doctors; research, such as Mumford's (1970) ethnographic study, has shown that junior doctors can defer to the judgement of experienced nurses. Even

senior medical staff may rely on nurses for local administrative rules and procedures and the location of materials and equipment (Hughes and Allen, 2002).

In the UK, Hughes' (1988) ethnographic study in a hospital emergency department indicated that nurses often play a much more overt role in decision-making than previously suggested by Stein's 'doctor-nurse game' (1967). Against the background of extreme work pressures, high physician turnover and a high proportion of overseas doctors, Hughes argued that nurses were much less preoccupied with concealing their role as advice-givers than Stein's (1967) game metaphor implied. Instead, they frequently offered advice on many aspects of departmental practice in an open and straightforward way, directly confronting medical staff and actively contributing to decision-making regarding patient care. Although in this instance medical dominance did not break down completely, the various work exigencies of the emergency department meant that its impact was considerably weakened. In particular, heavy workloads, the urgency of treatment and the short-term nature of medical appointments all led to nurses practising beyond their typical boundaries (Hughes, 1988). Health professional work in the emergency department holds similarities with ICU work, particularly with regard the urgency of treatment, although available research remains inconclusive.

Porter's (1991) research confirmed that the appearance of unproblematic nurse subordination is belied by substantial nursing input to patient care decisions in daily practice. His participant observation research in an ICU and a medical ward of an Irish metropolitan hospital suggested that while subordination and covert decision-making were used frequently, closer examination revealed that nurses were less dependent on these subordinate modes of interaction. Similarly with Hughes (1988), overt input to medical decision-making was frequently noted by Porter. However, Porter also clarified that overt nursing input was mostly exhibited in relation to junior doctors rather than consultants, while senior nurses in particular primarily used informal strategies to involve themselves in decision-making. In seeking out an explanation of the different styles observed – covert and overt – Porter argued that when nurses acted on medical orders without comment, they were displaying implicit agreement rather than unthinking subordination. Most of Porter's evidence was found in the ICU,

rather than on the medical ward, which further suggests the ICU to be subject to different inter-professional dynamics. Indeed, Walby *et al.*'s (1994) interview based study in British hospitals also identified nurses and doctors in ICUs, uniquely, to have less disciplinary boundary disputes than general medical and surgical wards, with nurses taking on extended roles and tasks, not against, but with the support and direction of ICU consultants.

The above findings are also reflected in international research (Svensson, 1996; Lingard *et al.*, 2004). Following a set of focus group interviews with doctors and nurses from two ICUs in North America, health professionals were found to maintain tacit rules through which inter-professional interaction was maintained (Lingard *et al.*, 2004). Inter-professional work was fostered and tensions managed through two mechanisms, Lingard *et al.* argued: the perception of ownership and the process of trade. Perception of ownership referred to valued constructs or commodities, including specialised knowledge, technical skills and equipment. These formed the basis of negotiation or exchange during inter-professional interactions. However, tensions arose when ownership was challenged such as when nursing input to patient care decision-making was rejected because it was seen as interfering with the medical domain. Moreover, inter-professional working was maintained through the process of trade in which commodities and constructs were traded through everyday interactions. For example, nurses traded the intimate knowledge they had of their patients for respect and recognition by doctors. In instances where respect was not offered by doctors, nurses engaged in an embargo of trade, withholding information. However, these findings were drawn from health professionals' reflections and recollections of past practice, which appear to have been accepted at face value; how these processes were actually enacted in day-to-day ICU work was not examined. It is, for example, unlikely that vital patient information or nursing support would be withheld from a doctor while attempting to provide life saving care to critically ill patients.

Moreover, in a Swedish study involving interviews with 45 nurses from medical and surgical wards in five hospitals, decision-making regarding patient care was argued to be subject to continuous negotiations between doctors and nurses, with nursing

influence being increasingly overt (Svensson, 1996). In this sense, health professional practice in that study reflected Strauss *et al.*'s (1964) negotiated order. Svensson (1996) noted wider changes in the Swedish healthcare system including a high concern with social and emotional components of care, educational socialisation of nurses as independent and autonomous professionals, and reorganisation of nursing and medical work along collaborative lines. He argued these changes resulted in a social context where relationships between medicine and nursing were no longer dominated by hierarchical and status-based interactions. Nurses interviewed by Svensson reported that they could question and challenge doctors, express their opinions and perspectives and influence decision-making in respect of proposed medical treatments and discharge arrangements. However, Svensson's work relied exclusively on nurses' perspectives of their work while the views of doctors were not solicited.

In contrast with Svensson's (1996) Swedish interview study, British ethnographic research identified "minimal negotiation and little explicit conflict" between doctors and nurses (Allen, 1997:506). Although interviews with staff in a general medical and a surgical ward of one British hospital suggested tension and boundary disputes, Allen (1997) did not see explicit conflict through her observations. She concluded that the division of labour between nurses and doctors was accomplished through '*de facto*' and 'purposive' boundary-blurring processes. For example, in *de facto* boundary blurring, nurses' monitoring of patients in the absence of doctors led them to make diagnostic decisions about patients' needs for medical intervention or treatments. In purposive boundary blurring, nurses intentionally took on doctors' tasks in order to maintain continuity of patient care. Moreover, in post-anaesthesia care units (PACU) the emergency status of clinical situations has been argued to shape nurse-doctor interaction (Prowse and Allen, 2002). Following in-depth interviews with experienced post-anaesthesia nurses, Prowse and Allen identified nurses as adopting a diplomatic approach in their communications with doctors when acting in ways that blurred occupational boundaries in routine situations, whereas in emergencies status differences were less influential. Nurses in that study reported that in routine situations they colluded the appearance of an asymmetrical power relationship

between doctors and nurses; during emergency situations however, they described a rather different form of interaction, characterised by increased assertiveness and the adoption of a more overtly directive role for nurses. PACU is an example of a 'turbulent' (Melia, 1979) work context, because of relative physiological instability of peri-operative patients and the intermittent flow of patients, in which chaos and unpredictable events punctuate periods of predictable and routine work (Prowse and Allen, 2002). In routine situations, certain changes in physiological parameters were anticipated and the experienced nurses dealt with these everyday situations by following established protocols and procedures. An emergency was a situation of rapid, and usually accelerating, physiological changes that were unexpected and would result in the death of the patient if not immediately corrected. The rapid time frame in which action needs to be taken during emergency situations, Prowse and Allen argued, creates a 'negotiation space' where occupational roles can change and nurses can use a more assertive and adopt a leading role in interactions with doctors. These findings lend further weight to the position that critical care settings, such as ICUs, could hold unique features that enable the division of labour to take on a different form than that which is encountered in general ward settings.

Finally, in one of the few studies with a focus on allied health professionals Mesler (1991) examined the changing relationship between clinical pharmacists and physicians in two hospitals in the USA. Through ethnographic work he identified a gradual shift in the work of pharmacists from making and dispensing drugs to the development of a patient-focused clinical function as an occupational redefinition and survival strategy. He argued that in response to the rapid proliferation of drug therapy in hospitals, doctors recognised that despite their undisputed autonomy over the prescription of drugs they required pharmacists' specialist technical knowledge to enable them to prescribe safely. He identified different strategies that pharmacists employed to advance their position in the division of labour that over time led to a shift in doctors' thinking about the role and function of pharmacists. At one hospital, pharmacists concentrated on influencing nurses' perceptions of pharmacists' clinical role as a means of furthering their negotiations with physicians; while at the other hospital pharmacists deliberately placed themselves on wards more frequently to

increase their visibility and thus opportunities for access to doctors. In this sense, Mesler's study lends direct support to Abbott's (1988) theorisation of the division of labour as capable of shifting as new actors enter the field and established jurisdictions are renegotiated. Given the increasing prominence of pharmacists in British ICUs it is likely that Mesler's findings continue to have relevance and extent to more specialised hospital settings; however, understanding of the processes through which pharmacists claim their jurisdictions in the ICU division of labour remains limited.

Notwithstanding current understanding concerning the *division* of labour in healthcare, the processes through which actual health professional work is *coordinated* and accomplished, particularly in critical life-threatening situations remains unclear (Hak, 1999). As Hindmarsh and Pilnick (2002:141) identified regarding healthcare research, 'the focus on team constitution and power relations tends to gloss the tacit practices of *in situ* collaboration'. The limited research available from critical care settings suggests that the criticality and intensity of this environment, coupled with the high interdependency amongst staff, require unique sets of rules for professional interaction. Indeed, within critical care environments the division of labour has been argued to be less about power negotiations and more about 'a practical accomplishment that emerges despite the fact that [health professionals] often have unequal power or status' (Hindmarsh and Pilnick, 2002:158). Analysis of audiovisual recordings of pre-anaesthesia room practice between anaesthetists and operating department assistants (ODA) in one UK hospital found that the practice of anaesthetists telling patients what they were about to experience (i.e. what would be done to them) concurrently made features of their work visible to ODAs. Experienced anaesthetic team members displayed an expertise in reading the implications of colleagues' activities for their own work and demonstrated an intimate sensitivity to the trajectory of colleagues' actions by maintaining an orientation to the nature of the task at hand and the connection between current practice and small-scale trajectories of actions, i.e. what should happen next. Coordination of work in critical environments was therefore argued to be tacit and implicit rather than based on explicit and previously conducted negotiation strategies (Hindmarsh and Pilnick, 2002). However, the tacit features of coordination notwithstanding, Hindmarsh and Pilnick (2002)

appear to completely disregard the social context within such work takes place and in this way their position may be rather extreme. Although anaesthetic teams can often be formed *ad hoc*, with individual members not having worked together before, professional roles and responsibilities as well as wider organisational and health policies are still likely to have some effect on the way these professionals work. Commentators identify that there is insufficient understanding of the practical accomplishment of coordinated action in healthcare settings, and call for more research of this kind to be undertaken (Hak, 1999; Hindmarsh and Pilnick, 2002). Therefore, the case exists to consider an additional level of analysis that allows the explication of the local ordering and organisation of collaborative practice (Hindmarsh and Pilnick, 2002). This is especially relevant in the ICU environment where an emergency is a pervasive phenomenon and collaboration is often ephemeral. This could then inform the development of policies and training of staff, ultimately contributing to improving the provision of high quality and safe healthcare.

Healthcare professionals do not work in a vacuum but within the environment of the healthcare system and hospitals in particular. The complex features that characterise the hospital environment influence health professional work and the division of labour. The key features of the hospital work environment are therefore the focus of examination next.

The hospital work environment

The work environment in hospitals has long been known to be organisationally and clinically complex, where the ever-present threat of emergency results in numerous fluctuations in the pace of work (Allen, 1997). Hospitals consist of 'variegated workshops' (Strauss *et al.*, 1985) of different medical specialisms and functions. This has been identified as affecting the organisation and patterns of work that develop in different hospital wards and units. The term 'turbulent' environment has been used to characterise hospital work, which is liable to disorganisation as a result of various inherent stressors (Melia, 1979). Through the examination of the existing literature, three key themes are identified to characterise the hospital work environment, and by

extension influence the healthcare division of labour: patient conditions, spatiotemporal complexity and professional tribalism.

Patient conditions

Healthcare services are profoundly affected by the very nature of patient conditions. As Strauss *et al.* (1985:154) observed, 'the entrance of the patient is what makes medical work fundamentally nonrationalisable'. Given that patient conditions do not naturally improve or deteriorate on cue, healthcare practice exhibits remarkable fluctuations in workload, alternating from busy periods of intense activity to others of relative calm. This is further accentuated in critical hospital environments, where patient deterioration is ever present, potentially imminent, and in which chaos and unpredictable events punctuate periods of predictable and routine work (Prowse and Allen, 2002). A flexible division of labour is required to adequately respond to fluctuating and uncertain patient needs, which also requires close working between relevant professionals.

In ICUs, for example, research from North America argued that doctors and nurses more easily apply their expertise and experience due to the narrower range of conditions treated there, as opposed to the wide range of conditions encountered on general wards, which made it easier to coordinate activities, communicate information and deal with problems (Shortell *et al.*, 1994). Here, interaction between doctors and nurses was examined through self-completed structured questionnaire surveys, including elements of unit culture, leadership, coordination, communication and conflict management. Positive scores indicating successful working relations were found to correlate with reduced patient length of stay, turnover, and improved quality of care (Shortell *et al.*, 1994). Similarly, a prospective descriptive study in three North American ICUs on doctor-nurse collaboration identified that complex patient cases necessitated and benefited most from nurses and doctors working together closely (Baggs *et al.*, 1999). Both these studies employed a descriptive design, using self-reporting structured instruments, and did not examine in depth the reasoning behind these findings. However, insights to this have been provided from qualitative work in the UK (Harvey, 1992; 1996; 1997; Carmel, 2003; 2006).

In a British ethnographic investigation of healthcare practice Harvey (1992; 1996) undertook observations in two ICUs and interviews with 40 nurses and 10 consultants. In that study, Harvey identified the uncertainty around the diagnosis and prognosis of intensive care patients to be a major source of strain for ICU professionals. Since intensive care work relied on both medical treatment and intensive nurse observation, doctors' and nurses' close and flexible working practices, Harvey argued, were especially important. Similar conclusions were reached ten years later in an ethnographic study undertaken in three British ICUs involving over 200 hours of observation and eight interviews with doctors (n=5) and nurses (n=3) (Carmel, 2006). The complex and uncertain nature of intensive care practice, Carmel argued, served to reify the ICU team, as doctors and nurses in intensive care worked closely and collaboratively to provide patient care. In particular, communication increased when complex treatment decisions needed to be made as doctors and nurses exchanged views on the most suitable course of action. Uncertainty in decision-making led consultants to be more open to contributions from nurses (Carmel, 2006). This openness by consultants allowed discussions with nurses to take place about patients' conditions and nurses to contribute to decision-making, thus fostering a collegial team relationship between doctors and nurses in the ICU. Indeed, this is echoed in an interview-based study with 24 experienced nurses on ethical decision-making in ICU (Melia, 2001). Here, Melia concluded that open communication, shared decision-making and consensus between doctors and nurses were necessary to manage and overcome the uncertainty surrounding the complex care decisions that ICU professionals faced.

Spatiotemporal complexity

The hospital is also spatiotemporally complex since healthcare services are provided by professionals operating under different time schedules (Zerubavel, 1979). Zerubavel's (1979) ethnographic work in a North American hospital demonstrated the complexity which arises from different professional schedules. He identified the temporal order of the hospital as a mosaic where the timetables of different professionals operated on a parallel but independent level (Zerubavel, 1979). For example, while nurses worked in shifts during the 24-hour day, doctors mainly worked

office hours between nine in the morning and five in the afternoon; outside office hours medical cover was via an on-call system. Although Zerubavel's insights reflect the working and shift patterns prevailing at the time, these continue to have resonance with current working practices of healthcare professionals. Health professionals in hospitals are also subject to different spatial constraints which affect their ability to move between hospital spaces. As Walby *et al.*'s (1994:92) interview-based research in British hospitals identified, doctors and nurses in hospital wards 'orbit along different trajectories': nurses remain constant in one location, such as a ward or ICU, while doctors and other allied health professionals can and do move around different areas of the hospital.

In a British study of nursing work involving interviews with 22 nurses working on acute medical and surgical wards, May (1992) argued that the physical geography of medical and nursing work disrupted the pathways through which knowledge about patients was distributed. In that study, May identified nurses to be relatively mobile on the wards, moving constantly between the various rooms and bays. This meant that interactions which took place between them and other professionals were necessarily episodic and constrained by the demands of work to be undertaken at the next bed or elsewhere on the wards. More recently, Allen (2002), reporting on an ethnography of two general hospital wards in the UK, identified that the different work organisation of nurses and doctors in hospital wards resulted in them also holding dissimilar temporal perspectives. This is because, Allen argued, most nurses needed to deal with multiple patient assignments in the duration of their shifts, needed to prioritise competing and unpredictable patient needs and to coordinate these with the timetables of doctors and other health professionals. This asynchrony between nursing and medical time schedules was also found in ethnographic work of three British ICUs to cause tensions between nurses and doctors (Coombs, 2004). Doctors, both in Allen's and Coombs' studies, reported frustration with what they perceived as unjustifiable grounds for calls or 'bleeps' to attend to nursing issues which they did not consider a priority. However, the extent to which this had any effect on the division of labour or coordination of work was not examined in those studies. For example, the limited presence of doctors in the ICU compared to nurses may limit

their capability to claim jurisdiction over minute-by-minute patient care, which may devolve to nurses.

In ICUs in particular, hospital organisation has been argued to allocate different kinds of information to participants in medical decisions (Anspach, 1987). In two neonatal ICUs in North America, Anspach – through an ethnographic study which included observations of weekly rounds, mortality reviews and decision-making conferences, and interviews with doctors and nurses – argued that the hospital and the way in which it organises health professional work differently 'serves as a sort of interpretive lens through which its members perceive their patients and predict their futures, and therefore functions as an ecology of knowledge' (1987:217). For example, due to their close and sustained engagement with the infants in those ICUs, nurses were able to use interpretive cues in assessing the infants' progress, while doctors had to rely mainly on technical cues such as vital signs and indications from life-support equipment. Anspach suggested that doctors and nurses, by virtue of their very different work trajectories and experiences, develop different views of facts, data and evidence, which leads them to form different interpretations of care priorities and treatment options. Such differing views may also exist in adult ICU settings and while it is conceivable that these could also influence professionals' jurisdictional claims making, Anspach did not provide insights into such elements.

Drawing from Anspach's (1987) findings, Harvey's (1997:728) ethnography argued that ICU nurses develop, through experiential knowledge and caring work, a 'radically different epistemology to that of doctors'. Harvey concluded that 'intensive care involves one-to-one patient care, such that the ICU nurse spends the entire shift at the bedside with the patient. Experiential knowledge based on caring work… is, therefore, gained by the nurse' (Harvey, 1997: 728). This appears to contrast with Zussman's (1992) ethnography of two North American ICUs in which he argued that the nurses he studied tended to overemphasise their technical knowledge, as opposed to their 'experiential' or 'interpretive' knowledge, in order to claim higher status relative to other therapists and as a means of gaining respect from ICU consultants. In this way, ICU nurses and doctors, for Zussman, appeared to share perspectives. This was also supported by Carmel (2003; 2006) who through his ethnographic study of three British

ICUs did not find doctors and nurses to hold what Harvey (1997) described as 'radically different epistemologies', but, in contrast, to adopt a similar biomedical viewpoint to the treatment of ICU patients. Regardless of whether doctors and nurses in ICUs follow different or similar 'epistemologies', the different spatiotemporal organisation of their work results in different experiences of and exposure to ICU patients that appears to inform their decision-making. Indeed, Melia (2001:107), through her interview-based study with ICU nurses regarding decisions to withdraw treatment, concluded that 'the differences of opinion which arise over the decision to withdraw are not simply to do with the way in which the situation is experienced by each professional group, proximity to the patient had a part to play in shaping… view'.

The exigencies of the hospital work environment, therefore, appear to have substantial implications for the ensuing health professional division of labour. These organisational and spatiotemporal tensions appear to be particularly accentuated in critical care environments. However, the means through which the division of labour is shaped within such constraints and the effects on ICU professionals' work in the contemporary NHS remain under explored. Furthermore, the range of professionals present in the hospital and their unique and distinguishing features also have a part to play in shaping the division of labour; this is where the chapter turns next.

Tribalism

Hospitals are characterised by an increasingly fragmented, specialised, professional division of labour (Finn, 2008), where each profession has a distinct role and socialised membership, with a historically developed and institutionalised set of hierarchical relations between them; this has been described as tribalism (Strong and Robinson, 1990; Hunter, 1996). In ICU, the various hospital tribes can include managers, doctors, nurses and allied health professionals, which themselves may include smaller tribes such as pharmacists and physiotherapists.

Different health professions appear to have slightly different goals and perceptions of healthcare provision, which encourage different professional priorities. Reasons for differences between health professionals are found in their different histories, ideology of work and professional cultures transmitted through distinct training

processes, as identified through North American and British ethnographies of medical and nurse training (e.g. Becker *et al.*, 1961; Mumford, 1970; Melia, 1987; Atkinson, 1995). For example, Coombs and Goldman's (1973) ethnographic study of a North American ICU identified junior doctors in settings like intensive care to be trained to demonstrate 'detached concern', focussing on the rational-scientific aspects of medical work to do with patients' physiology, while nurses have been shown to be concerned with providing 'holistic care', focussing on relational and interactional cues gained through close and intensive caring work with patients (Anspach, 1986; Harvey, 1997; Coombs, 2004). The different health professionals also appear to hold different views on what constitutes professional practice and the importance of collaboration (Snelgrove and Hughes, 2002; McDonald *et al.*, 2006). For example, a key facet of professional identity for most doctors has been argued to be the desire to practise as autonomous individuals who retain personal control over how they define, sequence and evaluate their work (Degeling *et al.*, 2001; McDonald *et al.*, 2006). In contrast, Walby *et al.* (1994), through their interview based study in British hospitals, identified that for the many nurses whom they interviewed a professional was someone accountable for their practice, guided by rules and monitored by senior colleagues.

As a consequence of such differences in priorities, the tendency in most healthcare settings appears to be towards conflict and contestation, to the detriment of professional integration (Walby *et al.*, 1994). In this context, the occupational boundaries that demarcate various health professional tribes may not necessarily be an asset to the smooth running of health services (Strong and Robinson, 1990; Dixon-Woods, 2010; Powell and Davies, 2012). For example, in a review of ethnographic studies examining patient safety in the NHS, Dixon-Woods (2010) concluded that progress was hindered by disputes between professionals about what counted as the right thing, unclear structures of authority, and accountability systems that did not always function well. In addition, professional tribalism was implicated in the failures in paediatric cardiac surgery at the Bristol Royal Infirmary in the UK (Kennedy, 2001; Braithwaite, 2005). Indeed, a key finding concerning what went wrong in Bristol was that there was a lack of teamwork between professional groups as well as strong

hierarchies and occupational defensiveness (Crinson, 2008; 2009; Timmons and East, 2011).

Despite professional differences, the complex and multiple needs of acutely ill patients create an interdependence of staff. Mutual interdependency between health professionals makes collaboration essential to achieving patient outcomes so that ultimately this tension must be managed in interaction such that collective action is not undermined (Finn, 2008). In one of the earliest sociological investigations of ICUs, Strauss (1968) drew from his observations of North American hospital work to argue the ICU to be a relatively unique hospital setting, isolated from other hospital services, 'tucked away in the hospital... cut off by doors as well as sealed off by its style and by posted warnings against outsiders' intrusions' (p.12). In ICUs, Strauss argued, nurses and doctors work closely, 'shoulder to shoulder', thus developing close working relationships and attaining a fair degree of intimacy. Despite Strauss' insights here being over 40 years old, they are still relevant since ICUs continue to be described as organisationally separate from other hospital areas (Carmel, 2006) and have a higher concentration of both nursing and medical staff compared to general hospital areas (Green *et al*., 2011). However, the extent to which this equates to closer working relationships requires further examination.

Similarly, Zussman (1992:15), through his ethnographic study in two North American ICUs, characteristically identified these as 'a hospital within a hospital', being separate from the wider hospital physically, organisationally and symbolically. In ICUs, healthcare personnel and doctors in particular were found to hold a feeling of camaraderie (Zussman, 1992; Carmell, 2006). Furthermore, the distinction between intensive care and the rest of the hospital has been argued to empower ICU nurses and doctors (Carmel, 2006). Through his ethnographic investigation of three British ICUs, Carmel found nurses and doctors joining forces and creating allegiances, which the distinct organisational space of the ICU fostered. In particular, the ICUs' firm physical boundaries were found to facilitate the development of close working relationships between nurses and doctors which could be sustained over long periods of time (Carmel, 2006). Here, clear division from the rest of the hospital served to

reinforce the ICU team as nurses and doctors were argued to engage in a process of 'incorporation', closing ranks against the rest of the hospital.

While the influence of professionals on hospital organisation is not underestimated, equal recognition must be also be given to the role of wider 'forces opening and closing areas for jurisdiction' (Abbott, 1988:90). Crucial here are developments in the nature of public management and policy, as examined next.

NHS Modernisation

Waring and Currie (2009) identify that over the last 25 years health policies across the developed world have sought to enhance the efficiency, effectiveness and accountability of healthcare systems. In this context, the aim is to bring the various healthcare professional groups closer in order to encourage greater multidisciplinary teamwork and to foster loyalty to the organisation rather than their individual profession (Hunter, 1996). For example, in the contemporary UK NHS there is a clear policy push for a reduction in the importance of occupational boundaries and containment of tribalism (Crinson, 2009; Currie *et al*., 2012). Elements of this agenda include the re-organisation of services, the extended scope of practice for certain professionals, such as nurses and pharmacists in ICUs, and a push for staff to work in a more inter-professional way (DH, 2000b; 2005b). The NHS Modernisation Programme is an example of these kinds of policy changes, including skill-mix adjustments, job widening, job deepening and the creation of new roles (Hyde *et al*. 2005; Crinson, 2009). Modernisation has been used to describe a number of health-policy initiatives calling for changes to the provision of public services in welfare states from the late 1990s onwards (Green *et al*., 2011). Amongst other drivers, such as external audit, professional performance indicators, introduction of market principles and user empowerment, modernisation called for changes to the governance style to favour partnership working and fluid arrangements. Health professional work was reframed around concepts such as teamwork and multi-disciplinarity (Reeves and Lewin 2004, Martin *et al*. 2009).

As noted in Chapter Two (Policy and Practice Context), the case of intensive care was indicative of such workforce changes where role extension and inter-professional

work were strongly encouraged (DH, 2000b; 2005b). In particular, the DH (2005b) policy called for the modernisation of the ICU workforce through role extension and expansion for nurses and allied health professionals. To overcome the imminent shortage of junior doctors, caused in part by the transposition of the European Working Time Directive into UK legislation, ICU nurses were supported to increase their scope of practice and allied health professionals promoted as vital members of the ICU multi-disciplinary team. Consultant roles for nurses, pharmacists and physiotherapists in ICU began to appear while local evaluations suggested these roles had a positive effect on staff morale and patient outcomes (e.g. Ntoumenopoulos *et al*., 2002; Kane *et al*., 2003; Horn and Jacobi, 2006; Dawson and Coombs, 2008; Durand *et al*., 2010). In an interview based study with critical care staff in England examining health professionals' perceptions of the ICU modernisation programme, Green *et al*. (2011) identified that staff reported this had led to better functioning teams, including a broadening of the ICU core membership to include a wider range of professionals, such as physiotherapists and pharmacists. The ICU, Green *et al*. argued, became a specialism with an identity. Thus, the ICU modernisation programme was argued to have empowered ICU professionals as more egalitarian ways of working developed; nurses in Green *et al*.'s study in particular spoke of more collaborative team-working between them and ICU doctors while allied health professionals reported feeling accepted as part of the team. Based on these findings, it would appear that at least in ICU the shift in professional jurisdictions brought about by the modernisation agenda did not lead to attempts from professionals to defend their boundaries, but instead, modernisation appeared to be a mutually beneficial professionalising strategy. However, this unproblematic and utopian view of an ICU team appears to contrast with arguments over the dynamic and contested nature of health-professional boundaries (Allen and Pilnick, 2006) and is rather unique in the literature. For example, in a cross-sectional questionnaire survey of medical and nurse clinicians and managers (n=3065) from 26 hospitals in England, Wales, Australia, and New Zealand doctors and nurses were found to hold opposite views on a number of elements of the modernisation agenda, multidisciplinary team-working in particular – nurses reported being in favour and doctors in opposition (Degeling *et al*., 2003).

Green *et al*.'s unique findings may be explained, in part, by the different context of the ICU specialism in the UK. In particular, as the examination of the ICU history in Chapter Two demonstrated, ICU is a relatively recent specialism, which continues to evolve rapidly; due to the complex nature of ICU patient conditions and reliance on one-to-one nursing, the ICU has always been inherently multidisciplinary; and, the funding for ICUs in the UK has rather uniquely been increasing steadily post 2000 despite the financial downturn of 2009. In this regard, the ICU may be seen as a deviant case compared to other hospital settings. However, this explanation appears to gloss over the ways in which professional role changes and redistribution of responsibilities were actually managed by ICU professionals in day-to-day practice and does not help understand the conditions and processes through which professional boundary disputes are settled in the ICU setting. Clinicians' and policy makers' ability to learn from the ICU case in the UK in order to inform future decision-making in this and other clinical settings is hindered as a result and therefore more research in this area is needed.

Timmons and East (2011) argue that this line of health policy is likely to continue with the current UK government's emphasis on 'liberating' the NHS from tradition and bureaucracy (DH, 2010). This may well undermine the position of healthcare professionals further, blurring their jurisdictional claims over the division of labour. At the same time however these changes also create new opportunities for professional groups such as ICU nurses, pharmacists and physiotherapists. Commentators agree that while much has been written about this topic, less attention has been paid to the consequences of such reforms for the nature of professional boundaries and relationships between healthcare professionals (Kirkpatrick *et al*., 2011). The portrayal of healthcare organisations as a hierarchical system with medicine at the pinnacle is rather common in the literature examined in the current chapter. Yet, health policy reforms have the potential not just to challenge the autonomy of established professions, but also to transform the nature of inter-professional boundaries and relationships (Kirkpatrick *et al*., 2011). Within the context of intensive care, little in-depth examination has taken place to consider the effects of the policy initiatives

introduced over the past decade on health professional work and its division of labour, especially post the DH (2000b; 2005b) ICU modernisation policies.

Conclusion

In this chapter the complex organisational setting in which health professionals operate in accomplishing their work has been examined. Different spatiotemporal zones appear to affect the organisation of work and relationships between professionals, although how this translates in the physically secluded environment of the ICU remains unclear. Boundary work appears to be active in the changing context of the hospital, particularly between doctors and nurses, while attention to allied health professionals has been limited. Most of the research examined here was conducted in general medical wards rather than specialist settings like the ICU. The ICU is one extreme of hospital work; as hospitals become focussed on acute illness, as patient acuity rises and as technology becomes more widely available, hospital wards are gradually being transformed to more closely resemble the ICU form (Amaral and Rubenfeld, 2009). As such, ICUs can be seen as the future of the hospital in microcosm and the natural progression of hospital wards, and therefore examination of professional work in this setting may well inform future health workforce policy. In addition, at a period of heightened sensitivity to the provision of safe and quality healthcare, understanding the means through which health professionals organise and manage the delivery of services within a critical and costly environment could lead to practice and research recommendations that would ultimately improve care for hospitals' most acutely ill patients.

The aim of the current study is to examine health professional work in ICU in order to draw out the associated interplay of context specific factors and social processes through which clinicians accomplish their day-to-day practice and the division of labour in intensive care.

The literature examined here also showed the benefits of a situated ethnographic study in order to address the above aim. Examination of the existing literature as shown in this chapter has raised some important issues and questions pertaining to health professional work in ICU. In particular: what are the key contextual features of

the intensive care setting and how do these influence the organisation of health professional work; what is the shape of the division of labour in ICU and what is the position of the different health professionals within this; how do health professionals settle their disputes and accomplish the division of labour in day-to-day ICU practice?

In the next chapter the research design and methods employed in undertaking the current study, and through which answers to the above questions are explored and contribution to the literature made, are critically examined.

Chapter Five: Research Design and Method

The purpose of this chapter is to examine the research design and method of the current study. The study was informed by ethnographic research principles, with data collected through observation of actual health professional work, complemented by interviews with staff, in three ICUs in London. First the choice of an ethnographic approach is examined, followed by the epistemological and methodological principles of the research and the study objectives. The selection of the research settings as well as issues associated with gaining access and ethical approval are examined next. This is then followed by a critical reflection on field relations and in particular about the researcher's role. Finally, the approach to and process of data collection and analysis is detailed and critically considered.

Ethnography

An *in situ* ethnographic study was selected to examine health professional work in ICU in order to draw out the associated interplay of context specific factors and social processes through which clinicians accomplish their day-to-day practice and the division of labour in intensive care. Ethnography was identified as the research method best adapted for the close observation of the clinical microsystem in question.

In ethnography, theory plays both a deductive and inductive role whereby theoretical insights firstly inform the focus of the research and secondly the interpretation of the data uncovered (Wilson and Chaddha, 2009). The current thesis, informed by an interactionist perspective to the division of labour as noted in Chapter Three, is concerned with face-to-face interaction at the level of everyday practice as the process through which professionals accomplish, within wider structural restrictions, the division of labour. Examination of day-to-day interaction among clinicians was therefore a key focus for the current study, which an ethnographic approach helped illuminate. Importantly, an ethnographic approach also enabled examination of Abbott's (1988) contention that it is in the workplace that the details of jurisdiction are worked out in day-to-day interaction, as professions compete for control over the

task area and where boundaries tend to appear and disappear. These theoretical insights were integrated with the empirical findings not to test specific hypotheses but rather to use this knowledge to make sense of the data uncovered through the research.

Ethnographic studies, particularly of work practices, are powerful in uncovering the 'unacknowledged, the hidden, the insider knowledge, the unwritten but pervasive rules governing jobs' (Smith, 2007:222). For the current study this could serve to shed light on the tacit ways through which ICU nurses, for example, organise and accomplish the delivery of nursing care between them. Moreover, an ethnographic study can illuminate how seemingly complex jobs are routinised together with the tacit skills, the decision-making rules, the complexities and the discretion utilised in routine work (Smith, 2007). An ethnographic study can enable observation of the defining features of professional work – the unpredictability, variety, formal and informal routinisation of tasks and activities – by observing the unexpected (Bosk, 1979) and opportunistically focussing on events as they arise (Buchanan *et al.*, 1988). In the current study, through observation of actual ICU practice as it happened, *in situ* and in the moment, the intention was to tap into the mundane and underappreciated aspects of inter-professional work particularly as critical ICU events, such as patient deterioration, unfolded in real time. Finally, ethnography can contribute to a 'disciplined unravelling of the breadth and complexity of relations: it can ask questions unasked by actors on the social scene; it can compare and contrast in ways that insiders do not do. It furnishes knowledge that is well worth having' (Atkinson *et al.*, 2007:31).

The origins of ethnography lie in 19th century Western anthropology, where it referred to a descriptive account of a, usually exotic, community or culture (Seale, 1999; Atkinson and Delamont, 2005; Hammersley and Atkinson, 2007; Allen, 2010). From the 1920s through to the 1950s sociologists at the University of Chicago developed an approach to studying human social life that was similar to anthropological research. The 'Chicago School', as it came to be known, was concerned with documenting the range of different patterns of life to be found in the city, and how these were shaped by the developing urban ecology (Hughes, 1971). Therefore, a great deal of the

foundational work in ethnography was concerned with the analysis of collective social action: how members of society accomplish joint activity through language and other practical activities (Atkinson and Delamont, 2005).

To some, ethnography in its widest sense equates with qualitative methods (Hammersley, 1998). This lack of clarity, however, can be problematic. For example, in Dixon-Woods' (2010) review of four ethnographic studies about patient safety little detail is available from those studies to enable readers to establish the methodological framework of the individual studies. In particular, the lack of research context and methodology used suggests ethnography can be a term applied loosely by some authors. However, the different ways in which ethnography can be employed, particularly in healthcare settings, is not necessarily due to 'methodological sloppiness', but due to real constraints, not least ethical restrictions governing the conditions under which researchers can and cannot conduct ethnographic work (Smith, 2007). For the current study, ethnography is taken to refer to a research approach which involves the researcher 'participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through informal and formal interviews' (Hammersley and Atkinson, 2007:3).

Methodological approach

Ethnography has traditionally operated on the principle of naturalism (Blumer, 1969; Hammersley and Atkinson, 2007). Naturalism proposed that, as far as possible, the social world should be studied in its 'natural' state, undisturbed by the researcher. Hence, natural not artificial settings, like experiments, should be the primary source of data. Herbert Blumer criticised experimental and survey research for failing to grasp the distinctiveness of human social life, and the key feature of the naturalistic research strategy that he recommended was getting close to naturally occurring social phenomena.

Epistemologically, Blumer (1969) based his position on the thought of GH Mead (1863-1931). This rests on the premise that a) people act toward things or situations according to the meanings that these have for them; b) that meanings arise out of the

social interaction between people; and c) people handle meanings through an interpretive process in which these are used and revised as instruments for the guidance and formation of action (Blumer, 1969). Therefore, Blumer makes certain assumptions about firstly the nature of human society and social interaction; and, secondly about social organisation and joint action. These assumptions as related to the current study are examined in turn next.

Firstly, human society is identified as consisting of people engaging in action; therefore, society exists in action and must be seen in terms of action. Fundamentally, society is an on-going process of articulation of action, that is, of fitting together the activities of its members. In the current study, therefore, the division of labour in ICU is seen as consisting of health professional interaction and to be accomplished in an articulation process in which work jurisdictions are settled in the course of day-to-day practice. This view does not deny the existence of social structure or organisation but clarifies that social structure is not self-sustaining; rather it is affirmed, transformed or cast aside through social interaction. In this sense, social interaction is a formative, rather than a passive, process between actors and not between factors imputed to them.

Secondly, a form of joint action is seen as different from any one of the diverse component acts that enter into its formation and from their mere aggregation. A 'joint action has a distinctive character in its own right, a character that lies in the articulation [of action] as apart from what may be articulated' (Blumer, 1969:17). However, Blumer reinforces, this should not detract from the fact that any form of joint action is subtended by a process of social interaction which serves not only for its change but also for its retention in fixed form: 'it is the social process in group life that creates and upholds the rules, not the rules that create and uphold group life' (1969:18). This is however problematic; health professionals in ICU, for example, while exerting some control over the allocation of work jurisdictions in their particular workplace during their day-to-day practice, inevitably operate within a context of health policy and organisational rules that predate them. Therefore, in ICU rules can be seen not only as resulting from past action but also as conditioning future action. Blumer however argued that the fact that previously established rules predate current

action should not detract from the fact that those rules were themselves established through a process of social interaction; therefore rules may not be seen as independent of action. This again presents a challenge; in ICU for example, the NHS modernisation policies for critical care (DH, 2000b; 2005b) exist independently of the fact that some health professionals may be more aware or familiar with these than others, while in day-to-day practice health professional work is accomplished with these policies as backdrop that pose certain limits to professional practice.

For the purposes of the current study, while the DH (2000b; 2005b) modernisation policies for ICU and existing workplace arrangements are acknowledged as a result of, and therefore depended on, past social interaction, they are accepted as predating and existing independently of future interaction. Therefore, the current study investigates health professional work in day-to-day ICU practice as operating within the current health policy context and existing workplace arrangements. It aims to examine the means through and extent to which health professional interaction, as a formative process, appears to be influenced by this context.

Methodologically, Blumer saw methodological realism as the only tenable way forward for ethnography. In the current research, entering into close and relatively long-term contact with ICU professionals in their day-to-day work would enable their views and interactions to be examined more closely. However, it was not assumed that simply 'being there' would guarantee an understanding of health professional work in this setting. In this context, ethnographic knowledge can be problematic. Much ethnography has been criticised for following the doctrine of 'naïve realism': 'the idea that there is a reality independent of the researcher whose nature can be known, and that the aim of research is to produce accounts that correspond to that reality' (Hammersley, 1992a:66). This has been argued to collude with some interpretations of qualitative research that focus exclusively on understanding the world from the individual's own perspective or to gain access to their personal private realms of experience and feeling (Atkinson and Delamont, 2005). Central to much of this latter line of inquiry lies the counter-doctrine of 'idealism' or 'constructivism': 'the idea that people construct the social world, both through their interpretations of it and through the actions based on those interpretations' (Hammersley, 1992a:66).

For ethnography, the notion of constructivism appears particularly problematic. This is because ethnographers themselves are part of society and the reality they study. Therefore, once ethnographic research is treated as a social activity, the question of the epistemological status of ethnographic findings is raised. Constructivism implies that in their work ethnographers create a social world rather than represent some independent reality, and then, it may be concluded, this world is not more nor less true than others (Hammersley, 1992a). In this way, constructivism seems to result only in relativism, which is itself problematic. As Hammersley (1992a:71) observes, if the claim that all knowledge is relative is true, then it applies to itself and therefore it is only true relative to a particular culture or frame of reference. Moreover, any claims about the nature of particular cultures would themselves have to be treated as relative, which leaves researchers consigned to circularity. Blumer (1969) defended methodological realism and argued that the position of constructivism is untenable. This is because the empirical world has an 'obdurate character' in the sense that it challenges, resists or does not bend to people's images or conceptions of it (Blumer, 1969:22). However, he also cautioned against a 'naïve' view of realism. In particular, he criticised such a view for mistakenly depicting the obdurate character of the empirical world as fixed or immutable in some ultimate form.

In light of the above debate, the methodological approach adopted for the current ethnographic study is what Hammersley (1992a; 2002) identified as 'subtle realism'. Subtle realism as applied to ethnography makes three key assumptions about the nature of ethnographic knowledge, claims and representation. These are examined next.

Firstly, under the doctrine of subtle realism, ethnographic knowledge is defined as beliefs about whose validity researchers can be reasonably confident of, although not certain. Assessments of claim, therefore, are based on judgements about plausibility and credibility, that is, on the compatibility of the claim with current assumptions about the world, and/or on the likelihood of error, given the conditions in which the claim was made (Hammersley, 1992a; 2002).

Secondly, it is accepted that there are phenomena independent of claims about them, which those claims may represent more or less accurately. The making of a claim does

not itself change relevant aspects of reality in such a way as to make the claim true (or false). Therefore, in this context, for the most part reality is independent of the claims that research makes about it.

Thirdly, while the aim of ethnography is to represent reality, this is not to say that its function is to reproduce it - to represent it in its own terms. Rather, representation must always be from some point of view which makes some features of the phenomena represented relevant and others irrelevant. Thus, there can be multiple, non-contradictory and valid descriptions and explanations of the same phenomenon.

In following Hammersley's subtle realism for the current study, I acknowledge that this research investigates health professional work in ICU as an independent and knowable phenomenon, but I also appreciate that direct access to that phenomenon may be constricted. Consequently, it is through the examination of health professionals' interactions in day-to-day practice that inferences about the phenomenon of health professional work can be drawn. Moreover, I accept that the study's findings rely on the interactionist assumptions and theoretical ideas noted in Chapter Three that make some features of health professional work more relevant than others, and so I made these ideas explicit through the literature review and refer back to these throughout the findings chapters. These are: a) health professional work operates within an interdependent ecology; b) outside structural forces do not determine health professional work but rather set broad and permissive limits to it; c) the division of labour is accomplished in the workplace through professional interaction at the level of day-to-day practice; d) the distribution of work jurisdictions in the workplace are in perpetual dispute. The aim of the current research is not to reproduce the social phenomenon of health professional work in ICU in some uniquely appropriate way, but rather to represent it within the context of the current study paying close attention to the supporting data available, which I thread throughout my findings chapters. The methodological approach of the current study also held implications for the analysis of the data, which is detailed separately in a later section of this chapter.

The major limitation of Hammersley's approach is that it is 'ontologically shy' (Banfield, 2004). Although he accepts that reality is influenced by wider social

structures, he does not account for those structures explicitly. In a footnote Hammersley (1992a:55) clarifies: 'I do not believe that reality is structureless. In constructing our relevance we must take account of what we know and can discover about that structure if we are to get the information we need to serve our purposes'. For the purposes of the current study, and in order to overcome ontological shyness, I drew from Blumer's (1969) interactionism while following Abbott (1988) in positioning that wider social structures influence professional work through the opening and closing of areas of jurisdiction which require settling in the workplace through interaction in day-to-day practice. In this context, I seek to examine the ways in which health professionals within the ICU settle jurisdictions and manage arising tensions and disputes in the process of accomplishing their work. In doing this, I take account of the policy and clinical context within which health professionals operate and draw inferences about the influence of wider structures on health professional work. The focus is therefore on developing a rich and detailed analysis that can generate insights into ICU work and make theoretical inferences that can inform future practice and contribute to the 'problem-solving capacities' (Hammersley, 1992b:201) of ICU clinicians.

Seale (1999:475) has warned that 'intense methodological awareness, if engaged in too seriously, can create anxieties that hinder practice, but if taken in small doses can help to guard against more obvious errors'. The issues examined in this section have had implications for the approach adopted for the current ethnographic study. Importantly, there was a requirement to be vigilant regarding the dangers of error in interpretation of events, and therefore attempts were made to identify complementary evidence in making claims, for example, through examining observations of actual events with professionals' own perspectives of those events. Illustrative data have also been presented throughout the findings chapters to enable the reader to make an assessment of the potency of the analysis and claims made. Crucially, reflexivity is also maintained throughout this ethnography in order to monitor any assumptions and inferences made on the basis of them, and examine those judged not to be beyond reasonable doubt; a later section of this chapter examines issues around reflexivity and the researcher role in depth. There is an

inevitable element of practical decision-making involved in ethnographic research which makes guarantees of validity difficult (Hammersley, 1992b). Therefore, in the sections that follow, I examine in detail issues in relation to the study's foreshadowed problems and objectives, research setting, gaining access, researcher reflexivity and role, process of data collection and finally data analysis. In so doing, I aim to make the research process I followed transparent.

Foreshadowed problems and study objectives

Ethnographers typically employ a relatively open-ended approach to research, beginning with a broad interest in some particular area of social life (Hammersley and Atkinson, 2007). The approach is therefore generally an exploratory one, although ethnographers will usually have in mind what Malinowski (1922:8-9) referred to as 'foreshadowed problems': 'preconceived ideas are pernicious in any scientific work, but foreshadowed problems are the main endowment of a scientific thinker, and these problems are first revealed to the observer by his theoretical studies'. In the current study, insights from the literature and policy reviewed led to initial research concerns to develop as explained below.

The backdrop to the current study was a dominant policy discourse in the UK and the international health policy scene concerning quality of care and safety in hospitals, in which poor inter-professional collaboration was identified to be key to impeding progress (DH, 2000a; IoM, 2001; CHSRF, 2006). This was especially evident in ICUs where hospitals' most acutely ill patients are cared for. A review of the ICU literature and small scale empirical study as part of an MSc into ICU nurses' views of teamwork revealed a lack of clarity about what this concept represented and how it was operationalised in daily practice (Xyrichis, 2005; Xyrichis and Lowton, 2008; Xyrichis and Ream, 2008). Due to the apparent dearth of knowledge on the subject the current study was devised and an application for a PhD studentship successfully made. As part of that application a project proposal was submitted, proposing an ethnographic investigation of inter-professional practice with a particular focus on examining the processes that facilitated and hindered teamwork in ICU.

With hindsight, however, the original proposal was a rather narrow approach to take. Hammersley and Atkinson (2007) warned that the initial interests and questions that motivate a study will be refined, and perhaps even transformed, over the course of research. Change in research problems can be due to the original formulation being founded on mistaken assumptions or that given the current state of knowledge, the problem selected is not tractable. Indeed, the study's initial preoccupation with teamwork proved to be rather narrow and restrictive. Therefore, the objective of the study was re-examined to adopt a broader stance, and the focus shifted to the ways in which health professionals in ICU interacted during their day-to-day work. As the study progressed, the literature was revisited and the data collected re-examined. Through this a number of specific concerns developed and these were gradually refined into the study objectives that ultimately informed the analysis and the current thesis. These were to:

i. Examine the key contextual features of the intensive care setting and how these influence health professional work in ICU;
ii. Investigate relationships between the different health professionals in ICU;
iii. Analyse the social processes by which health professionals organise and deliver ICU care in day-to-day practice.

Within these, even more specific considerations gradually arose such as the differences in the behaviours between senior and junior members of staff, and the differences in professional interactions during quiet and busy work periods. Through this process the study became progressively more clearly focussed, and this then allowed the strategic examination of data to pursue answers to those areas of research concern more effectively (Hammersley and Atkinson, 2007).

Setting

A sampling frame was initially developed to inform the selection of research sites (Appendix One). Information on all general adult ICUs within acute NHS Trusts in London was collected. This included information from the DH regarding ICU bed capacity; the Healthcare Commission for Trust ratings on quality of services; and the NHS Staff Survey concerning the overall Trust teamwork scores. In addition, each Trust's website was explored for relevant information such as the ICUs' approach to

patient care or mission statement. This enabled the development of a certain familiarity with these ICUs that was used to guide the selection of the research sites.

In total, 32 acute care Trusts were identified, of which 28 included a general adult ICU. The majority of Trusts had an ICU bed capacity between seven and 15 beds and received a rating of 'good' by the Healthcare Commission regarding their quality of services. All the hospitals scored similarly for teamwork on the NHS Staff Survey. Although Trust scores were accessed and considered as part of the selection process, the similarity in scores achieved by most Trusts indicated this was not a sensitive measure of comparison. The sites ultimately chosen for investigation in the current research were purposively selected to enable the gathering of the richest possible data while considering their appropriateness and ease of access (Lofland *et al.*, 2006). An overview of the research sites is provided next while a closer examination is offered in Chapter Six.

London offered a unique opportunity to conduct research in busy, specialised, advanced and complex organisational hospital environments that would provide rich cases to study. Sites were selected to maximise the collection of data that would serve to examine the research aim of the current study. The research was undertaken in three ICUs situated in two hospital Trusts. These were given pseudonyms and are referred to in this thesis as Cityview, Riverview South, and Riverview North ICUs. Conducting the research in more than one ICU was important in order to benefit from a range of variables that might exist across sites and enable the examination of developing ideas and theoretical propositions in the different settings (Eisenhardt, 1989, Flyvbjerg, 2006).

The ICUs chosen represented comparable but qualitatively different cases with regard to their size and bed-capacity, date of inception, use of technology and staffing. For example, one hospital Trust encompassed two large 15-bedded ICUs with more than 200 staff between them, while the other represented a smaller ten-bedded ICU with fewer than 100 members of staff. Moreover, one hospital Trust was based in a Victorian building while the other was based in a new purpose-built building. Two ICUs ran a paperless environment while the other used a conventional charting practice.

Furthermore, the two Trusts were located in geographically opposite areas of London: one Trust in the East, the other in the West.

Gaining access

Ethical approval

The issue of gaining access to the field looms large in ethnography and is increasingly complicated by ethics committee restrictions (Hammersley and Atkinson, 2007). As this research was to be undertaken in NHS hospitals, the very first step involved negotiating a multi-site research approval through an NHS Ethics Committee. Approval was sought to collect data from NHS staff through *in situ* observation of actual health professional work in ICUs and interviewing staff (Appendix Two). As the focus of the current study was on professional interaction, access to patients and their relatives was not sought; this decision was also informed by sound ethical concerns. It was not considered appropriate to add further burden to relatives of critically ill patients by asking them to participate in the research, while seeking consent from unconscious ICU patients would not have been feasible. Approaching patients and relatives post-ICU discharge was considered as a possible compromise but this was beyond the scope and time frame of the current research. Although not involving patients and/or relatives could be construed as a possible limitation of the current research, based on the above concerns at the time the decision was made to restrict the investigation to health professionals.

Adjusting research plans on ethical grounds or to ensure smooth passage through ethics committee procedures is not uncommon (Hammersley and Atkinson, 2007). Allen (1997), in her ethnographic work of hospital wards, also acknowledged that part of the decision to not access data from patients was to avoid the long process of gaining NHS ethics approval that would delay her project. In the current research, although only data from staff were sought, my presence in the units naturally exposed me both to patients and their relatives. However, a conscious effort was made to not include references to patients and their relatives in the fieldnotes. Therefore the analysis presented in Chapters Six to Nine focuses only on health professionals.

Gatekeepers

Once ethical approval was obtained, access negotiations at the three sites followed a similar sequence in order to maintain consistency. This involved initially approaching key gatekeepers (Hammersley and Atkinson, 2007), who were identified to be the ICU nurse managers and research and development (R&D) coordinators. Gatekeepers were contacted via email in the first instance informing them of the proposed research and inviting them to participate. This was then followed up with a telephone call and a face-to-face meeting. This initial contact served to introduce the research while providing an opportunity for staff to seek clarification of particular questions. In all the units the managers were welcoming and forthcoming indicating an interest in the research. They also facilitated contact with senior staff, even offering tours of the units.

While at Cityview ICU initial access was straightforward, at Riverview North and South ICUs it proved to be more problematic. This was because initial R&D contact was made with the R&D coordinator at hospital level, without the knowledge that the particular intensive care department had established its own point of access through a unit-based R&D officer. This apparent breach of protocol was interpreted as transgression by that particular individual and invited what Schatzman and Strauss (1973) described as 'angry challenge'. Following repeated meetings, email communications and assurances that disrespect was unintentional, access to the site was eventually granted but not until several months after the initial request.

Hammersley and Atkinson (2007:49) warn that identifying relevant gatekeepers is not always straightforward; even within bureaucratic organisations it may not be obvious whose 'good offices it might be advisable to secure'. Indeed, although the current research study was in principle approved by the senior hierarchy of the Riverview Trust, delay in engaging closely with and ensuring local approval from the ICUs' R&D officer in the first instance risked access being denied.

Participants

As Hammersley and Atkinson (2007:43) state, 'access is not simply a matter of physical presence or absence… it is far more than the granting or withholding of permission for

research to be conducted'. Importantly, access is about field relations and negotiating acceptance with potential participants. In the current study, once access from the ICUs' managers and R&D coordinators was granted, information in the form of leaflets and posters was distributed in the units. Unit administrators circulated via email an invitation letter to all staff informing them that the study was to take place, placed posters on announcement boards and information sheets in other relevant communication areas, such as unit communication books, so that as many ICU staff as possible were informed. These documents are included in Appendix Three.

Following Lofland (1971), I endeavoured to place myself into the position of being an 'acceptable incompetent'. I presented myself as a student, with a professional background in nursing, aiming to learn more about the workings of an ICU as part of a research study. This was intended to create a non-threatening atmosphere, avoiding being seen as an 'expert or critic', and to allow the building of rapport (Hammersley and Atkinson, 2007). I found this approach to be rather fruitful; during the first visit at Cityview ICU I made the following entry in my fieldnotes:

> *Judith (sister) and Chris (unit administrator) were having a discussion about staffing requirements for the afternoon, when I noticed that Chris appeared to be rather careful with his selection of words; indicated by him speaking slowly, looking upwards before speaking, taking a while to respond, and subtly looking at me. Chris then turned to me and asked if I was also a doctor. I responded instinctively that I was not, 'just a research student'. In response he nodded his head up and down, said 'uhm', and stood up upright. He then turned to Judith and started to speak noticeably faster than he did before. He did not seem to pay much attention to me again following that incident.*
>
> (Cityview ICU: 1)

Fully informed consent, in the sense of spelling out in full the purpose of the research and the procedures to be employed, has been argued to be neither possible nor desirable in ethnographic research (Hammersley and Atkinson, 2007). This is mainly as a result of the way in which the research focus may change over the course of fieldwork, while the demands likely to be made on people in the setting are often a matter of little more than speculation at the outset. However, for the purpose of the

current research it was important to remain overt about the research from the beginning; indeed, this was a requirement for the Ethics Committee to grant approval. Although the aim of the current research was overt and information about the study was widely disseminated to participants, in the various discussions with staff terms such as 'collaboration' and 'teamwork' were not overemphasised; rather, focus was kept on the overall work of health professionals in the ICU. This strategy was employed to avoid predisposing participants while bearing in mind concerns that information provided may influence the behaviour of the people under study in such a way as to 'invalidate the findings' (Hammersley and Atkinson, 2007:57). Despite best efforts to communicate to staff information about the research, it was surprising to find that some were still relatively unclear about the purpose of the research. For example, there were queries about whether my interest was in hand hygiene or was involved with infection control audits. On every occasion I aimed to clarify the research focus and reassure staff that my interest was to understand and not assess their practice.

Although initial negotiations were most acute in the first few days in the field, access to and acceptance by participants was negotiated on an individual basis throughout the data collection process (Hammersley and Atkinson, 2007). This continuity was necessary on the basis that staff had their own autonomy, may or may not have been interested in the project, and that initial relationships are apt to change and can evolve during fieldwork with some people potentially losing interest (Schatzman and Strauss, 1973). However, I found that in contrast, the ICU staff showed more interest in the study as it progressed. This was interpreted to be as a result of staff becoming more comfortable with my presence in the units.

Reflexivity and researcher role

The practice of ethnography requires careful attention to issues of identity and social status, as well as the role of the researcher in the generation of data (Allen, 2004). Although it is acknowledged that the researcher is external to the phenomenon studied, the influence of the researcher on the way data are collected and recorded is

inescapable. Therefore, researcher reflexivity becomes a necessary tool contributing towards the understanding of the researcher role and its impact on the data collected.

Three dimensions of reflexivity have been proposed that are directly relevant to the researcher role in ethnography: a) how the field of study is filtered through the lens of the researcher and, as such, how it reflects their theoretical perspectives; b) how in actively participating in the field, the researcher impacts on the phenomena being researched; and c) how the field affects the researcher (Allen, 2004). Making these processes transparent enhances the rigour of research and consequently allows the validity of the findings to be assessed. Remaining aware of Allen's first dimension of reflexivity, the theoretical and research context of the current research have already been acknowledged in the preceding review chapters and are threaded through the presentation of findings.

With regard to the second dimension, the aim of the current research was to participate minimally in the workings of the ICU professionals and so observe and document from a relative distance. Gold (1958) described four roles researchers can adopt, to represent points on a dimension from full to no participation: the 'complete participant', 'participant-as-observer', 'observer-as-participant' and 'complete observer'. For the current study 'complete participation' was not possible and would have proven rather limiting. Although a registered nurse, my lack of ICU experience in the UK would likely have raised concerns for ICU managers and would have required extensive and complex negotiation in order to acquire honorary contracts with each unit. Importantly, working as an ICU nurse I would likely have had more restricted access to the range and character of the data that could be collected as I would have been implicated in existing social practices and expectations in a far more rigid manner than as a researcher (Hammersley and Atkinson, 2007). Allen (2002; 2010) concluded that her own complete participant role in an ethnography of 'care work' in hospital wards was of limited value partly because so much energy was taken up with the activities in which she was participating that recapture of the detail of scenes was poor. At the same time 'complete observation' would likely have also imposed severe limits on what could and could not be observed, while questioning of participants would not have been possible. Adopting either of these two extreme roles is not

usually encouraged since most field research involves roles somewhere between the two poles (Hammersley and Atkinson, 2007; Allen, 2010). Consequently, a stance of observer-as-participant was adopted through which I joined different shifts, shadowed various clinical staff and was present at ward rounds, discussions and informal events such as lunch breaks.

In addition, attention to appearance was given, particularly bearing in mind the symbolic meaning placed on uniforms within healthcare (Allen, 2004). ICUs represent different settings than the majority of hospital wards with regard to 'dress code' in that all staff dealing with direct patient care need to wear 'blue scrubs', primarily for infection control purposes. It has been suggested that while sometimes it may be necessary for the researcher to dress in a way that is similar to the people studied, at other times it may be necessary to use dress to separate oneself from particular categories to which one might otherwise be assigned (Hammersley and Atkinson, 2007). While remaining aware of such concerns I actually had little input into what was appropriate to wear while on the units. At Cityview ICU, I was instructed to wear plain clothing, keeping a 'smart-casual' look, so that patients and staff would not confuse me with a clinician. There was also a suggestion that I should wear a white coat, mainly for infection control purposes. However, I was conscious this may have been associated with the kind of coats junior doctors wear on the wards and was concerned as I did not want to be identified with any particular group. Plain clothing was therefore worn while keeping a safe distance from ICU patients; initially I wore a formal shirt and trousers and later switched to polo shirts. Although to begin with I was concerned that my plain clothing would attract attention – that I would stand out among the staff with their blue scrubs – I did not find this to be the case. This was because ICU administrators, visitors, patients' relatives and allied health professionals who were not always directly involved with patient care (such as pharmacists) were also in plain clothing.

In contrast, in the other two ICUs at Riverview the gatekeepers were adamant that I wore blue scrubs, as they were particularly concerned about infection control. At Riverview North and South ICUs the only differentiating characteristic between researcher and staff was the researcher's badge that I was instructed to have clearly

visible for staff to see. Although I was initially concerned about staff and patients misinterpreting my role, I did not find this to be the case. Conversely, the blue scrubs allowed me to blend in the background and walk about the ICUs without attracting much attention.

As a former ICU nurse, albeit from another country with no practice experience in the UK, it was important that I clarified the research role with participants from the outset. I therefore made it clear that while having a professional background as a nurse, my role on the unit would be that of a researcher and not a clinician. Despite my own nursing background, I found myself detached from the ICU professionals I observed. This may have been the result of three key elements of my professional biography. Firstly, I have never practised nursing in the UK and therefore was largely unaware of particular routines, policies, guidelines and protocols that were in operation. I therefore found myself regularly questioning the activities observed and asked staff about their daily workings and routines. Secondly, this may also have been due to my relatively limited experience of working in an ICU; having had only one year's prior ICU experience I still considered myself to be a novice. Thirdly, by the time I was undertaking data collection as part of my fieldwork for the current project I had been out of practice for three years due to full-time studies. Consequently, I found the ICUs studied to be rather unfamiliar environments.

There were moments when I felt I wanted to be involved with ICU work and particularly to help out. One such instance was recorded as a reflective fieldnote:

> *As I observed the patient in bed space three – who was sat up in the bed but was rather wobbly – I couldn't help but feel a bit worried and anxious he could slide off. I felt myself wanting to reach out and support him, use some pillows, but restrained myself. The patient remained safe and in the bed until he was laid back down.*
> (Cityview ICU: 114)

Admittedly, while many aspects of the organisation of ICU work were unfamiliar to me, what I regarded as elementary ICU work, as inherited from my own training, was all too familiar. Basic patient care principles around safety and life support were still vivid. I kept these thoughts noted in my reflective notes and used these as reflection

points as I consciously tried to maintain a firm research identity. Although at times I had considered helping some of the nurses with turns, for example, I decided against this since I was concerned that it may have resulted in me being identified as a member of the nursing team and inadvertently distancing myself from other professional groupings. Miller (1952) noted that over-rapport with one group can lead to problems with developing rapport with others, which may impair researchers' social mobility in the field (Hammersley and Atkinson, 2007). This approach appeared successful; for example, I found it easy to develop rapport with junior doctors who invited me for coffee or lunch rather frequently. This may have been because most junior doctors in the ICUs were men in their late 20s, as was I at the time. Although initially I found it fascinating gaining access to the workings of a professional group other than my own, I soon began to consciously allocate my field time more equally between different health professional groups in an attempt to gain a comprehensive view of ICU work from different professional angles.

However, it is inaccurate to portray an image of 'plain sailing' in my fieldwork since I found my initial encounters with the field to be uncomfortable and stressful. In particular, in the first ICU where I began fieldwork, I initially felt I was getting in the way of others' work as they remained busy throughout their shifts while I was standing about observing or asking them questions. In one of the visits at Cityview ICU the following incident occurred:

> *While at the nurses' station I noticed a new physiotherapist in the unit and approached to introduce myself. I wanted to start a conversation but I didn't get a chance as she was clearly too busy: 'I'm just covering because they are understaffed, and I have five patients to see in two hours, so if you don't mind I don't have time for long conversations.' I apologised and retreated to my usual spot at the nurses' station.*
>
> (Cityview ICU: 95)

Some degree of discomfort is not uncommonly experienced by field researchers by virtue of the 'odd' or 'marginal' position often adopted (Hammersley and Atkinson, 2007), some describing a kind of 'dysadaptation syndrome' (Wintrob, 1969:65) characterised by feelings of anxiety and helplessness. My initial awkwardness

however gave way as I spent more time at each unit. With time, I found myself more at ease with my role while also noticing that people took more time to just take a break and have a chat with me about my research or other social matters. It is possible that the initial busyness of staff I witnessed may have been accentuated by my presence and the idea that staff felt they were being observed. Although none of my participants discussed this explicitly with me, observer effects, particularly on workplace productivity, are well documented (Green and Thorogood, 2007). However, ICUs are indeed notoriously busy environments, due to the critical nature of patients' conditions, and staff had very little time to spare, which is an issue also identified by past ethnographies in ICUs (Carmel, 2003; Coombs, 2004).

Throughout the fieldwork my aim was to cause minimal disruption to everyday practice and to not interfere, unless a patient's well-being was in immediate danger; this only occurred once. In that instance, a newly admitted patient to the ICU suddenly deteriorated rapidly and went into cardiac arrest. Two ICU nurses commenced life support and called for help from two junior doctors who were sitting by the nurses' station. However, the two doctors were preoccupied with discussing another patient and did not pay attention to the nurses' calls. Following a second failed attempt by the nurses to attract the doctors' attention, I approached the doctors myself and alerted them to the situation. The patient subsequently made a full recovery.

Data collection

Data for the current study were primarily collected via observations of actual health professional interactions during day-to-day ICU practice, captured through contemporaneous fieldnotes. Observations were complemented by interviews with a purposively selected sample of health professionals to reflect a range of ICU staff. In this section, the approach adopted for observations and interviews is examined, and the making of fieldnotes critically considered.

Observations

Observation commenced at Cityview ICU, because as a smaller unit it provided a contained site with which to commence data collection. The smaller size of the

Cityview ICU made it easier to conduct observations and allowed me to better prepare for observations in the larger ICUs that followed. Then, Riverview South ICU was approached as the larger unit in order to examine possible effects of a larger unit on health professional interaction and contrast these with Cityview ICU. Finally, fieldwork was undertaken at Riverview North ICU, which although was part of the same Trust as Riverview South ICU, was smaller, on a different site and had a different layout.

A fairly standard approach to observation visits was followed across the three units. The first couple of observation visits followed the nursing staff's 12-hour shift from 7.30am to 7.30pm. Although tiring, this was useful in appreciating the progression of the day, gaining the staff's respect and prolonging engagement with the field thus allowing integration with the unit; a tactic also successfully used by Carmel (2003). Having a background in nursing, 12-hour shifts were not new to me though I did notice that my level of alertness felt as if it deteriorated somewhat with time. To overcome this, I consciously monitored my ability to observe and took regular coffee breaks. This had the added benefit of socialising with staff during breaks thus developing rapport. Subsequent visits were undertaken at different times and days of the week, including mornings, afternoons, nights and weekends. For example, a night shift within the first two weeks of observation in each unit was planned so that the full day and night cycle of the unit could be appreciated, as well as to demonstrate commitment to the ICU staff.

During observation visits I focussed on both intra- and inter-professional interaction in the units as it happened. Initially I remained at the nurses' station, observing and making notes of interactions from a distance, aiming to attain a level of familiarity with the different units. Gradually, I started asking particular staff if I could follow them and observe their work. For example, I followed consultants in their ward round; joined nurses during handovers; followed the ICU sister; and spent time with bedside nurses. Fieldwork consisted of phases of regular observation visits followed by time away from the unit to aid reflection and analysis. Observation visits were undertaken between two and four times a week, and lasted a maximum of 12 hours, such as during night shifts, and a minimum of six hours during either mornings or afternoons.

Moreover, as the planned fieldwork period was coming to an end, visits became less and less frequent to build distance and facilitate a smooth exit from the field.

Overall, time spent in fieldwork at each unit was guided by how quickly saturation of data was reached. In this context, saturation refers to the point where no new incidences, ideas or themes occurred and where the setting took on the appearance of 'routine familiarity' (Hammersley and Atkinson, 2007). In practice, this also reflected what Allen (2010) described as a growing feeling of boredom, as the same situations reappeared and no new or different cases identified. Although I sometimes found myself reluctant to leave the units, since in principle there could always be something new to discover or an unforeseen event to investigate, I was conscious of Hammersley and Atkinson (2007:91) who emphasise that the line has to be drawn somewhere since 'there is no point in hanging on in the field to no good purpose.'

Most of the fieldwork time was spent at Cityview ICU, followed by Riverview South and Riverview North ICUs. This was because in Cityview, as the first ICU observed, it took longer to become accustomed to the setting and the process of the research, and subsequently saturation took longer. Building on the experience gained at Cityview ICU, the length of fieldwork at subsequent ICUs gradually reduced as I was able to adjust to the setting faster and data saturation occurred quicker.

Interviews

Interviewing was used as complementary to observations, being mindful to use 'the data from each... to illuminate the other' (Bekcer and Geer, 1957; 1970; Coffey and Atkinson, 2003; Hammersley and Atkinson, 2007:102). Interviews were not considered to be superior to observations but served as an important source of data, appreciating that however frequent the observation visits were, some information may not have been available to observe first hand. In addition, interviews enabled exploration of participants' views and interpretations of particular events and were helpful in raising awareness about situations not directly observed and clarifying analytical ideas. Participants' accounts are analysed in terms of the perspectives they implied about particular situations, the reasons given for particular perspectives and behaviours, and the inter-professional dynamics they suggested. For example, the interview with a

medical consultant at Cityview ICU indicated his reasoning for claiming to have a final say on clinical decision-making, using his accountability to the General Medical Council (Chapter Eight); while the interview with a physiotherapist at Riverview South ICU suggested difficulty with confronting medical consultants, whom he described as being surrounded by an invisible force field (Chapter Nine).

In ethnographic research, interviews can range from spontaneous, informal conversations in the course of other activities, to formally arranged meetings outside the field and out of earshot of other people (Hammersley and Atkinson, 2007). For the current study both informal and formal interviews were conducted with key ICU personnel selected to represent a range of professionals from different units and of different seniority. Informal interviews were undertaken with seventeen staff across units (eleven nurses, two doctors, two physiotherapists, two pharmacists). The main purpose of these interviews was to seek more information about particular incidents I had witnessed and clarification of issues that I found puzzling. These staff were purposively chosen for their involvement in a particular incident and were approached on the unit shortly after the incident occurred; all staff approached agreed to be interviewed. These interviews lasted between fifteen to twenty minutes, were conversational and were undertaken on the units, either in the staff break area, relatives' lounge, doctors' office, at the nurses' station or by a bedside. At Cityview ICU most interviews were undertaken in the break area, during staff breaks or following a shift; at Riverview North ICU most interviews were undertaken in the relatives' lounge because the staff break area was usually busy; and at Riverview South ICU most interviews were undertaken by the bedside since it was a rather spacious unit. During interviews I made contemporaneous notes which I expanded on soon after each interview; interviews were also voice recorded using a pocket digital device and were later transcribed, although the recordings made at the nurses' station and by bedsides were of mixed quality as the units could get quite noisy.

In addition, formal interviews were undertaken with another ten members of staff, post-fieldwork. The purpose of these interviews was to examine, clarify and seek more information about particular analytical ideas that arose following the end of the fieldwork. Here, I selected staff whom I had not interviewed before, reflecting a range

of professionals at different levels of seniority, although also targeting senior staff in particular who had not been available for the kind of informal interviews undertaken during the observation visits (one band five nurse, four band seven nurses, two ICU directors/medical consultants, one consultant pharmacist, one band five physiotherapist, one consultant physiotherapist). These staff were approached by email, which included information about the study, and invited to meet with me to be interviewed at a time and place of their convenience. These interviews lasted on average forty minutes; nine interviews were held in offices or meeting rooms at the hospitals, and one interview was undertaken at a café near one of the hospitals. Two other staff (one junior doctor, one band seven nurse) who originally accepted to be interviewed had to change their shifts unexpectedly and did not attend the interview; rescheduling the interview with these staff was not successful. Formal interviews were also voice recorded using a digital device; these recordings were of high quality except the one undertaken at a café which included background noise. All interviews were transcribed verbatim.

Although it is not customary for ethnographers to have predetermined and precise questions to ask each interviewee, it is accepted that they can enter the interview with a list of issues or topics to be covered (Hammersley and Atkinson, 2007). In the current study, drawing from the literature reviewed and the theoretical ideas informing the thesis, an indicative interview topic guide was initially developed which was submitted for the consideration of the Research Ethics Committee. In the application it was made clear that the topic guide submitted was an indication of the possible topics to be covered during interviews and that these would be subject to refinement. The interview guide included a list of topics that appeared to be relevant for discussion with potential interviewees and included the interviewee's role in the ICU team; their views on inter-professional working; the way they perceived ICU work to be organised and delivered; and their perspectives on possible influencing variables. However, this was not a guide that was rigidly adhered to, nor was a fixed sequence of topics or questions established, but rather it served as a reminder for topics to be discussed. In practice, interviewing adopted a flexible, non-directive approach, allowing the discussion to flow in a way that seemed natural. This avoided

the interview from turning into a question and answer session, encouraged participants to relax and talk about aspects that they perceived to be important, and allowed probing in order to examine issues in depth. Typically each interview commenced with an invitation for the interviewee to discuss what had happened during a particular incident or to give an account of what their work in the ICU involved; for example: 'Could you describe to me, with as much detail as you like, what your day-to-day work in the ICU involves?', or, 'Thinking back to [the earlier incident], could you describe to me, with as much detail as you like, how you saw that event unfolding?' Issues arising from an interviewee's response to these questions were picked up and used to probe the interviewee for further detail. Through this process most of the topics already identified on the topic guide were addressed as they came up naturally from the ensuing discussion.

Although leading questions were largely avoided, on occasions they were found to be useful in encouraging participants to express their views and as a means of 'penetrating fronts' (Hammersley and Atkinson, 2007). When this question tactic was used, I phrased the question so as to 'lead' in a direction opposite to where I expected the answer to lie thus avoiding the danger of misleadingly confirming expectations. For example, in the interview with Julie, a consultant pharmacist at Riverview North ICU, the following exchange occurred:

> *Andreas: Would you say that the pharmacist's role is to support the consultant?*
> *Julie: Probably in the grand scheme of things. [pauses for a moment] No! I don't think it's the role to support the consultant. I think their role is more there as the medicine expert but it feeds into the consultant.*
> (Riverview South ICU: Julie)

While for the most part of that interview Julie appeared composed, being very careful in her choice of words and avoiding challenging the authority of medical consultants, her response to that question revealed a different perspective not previously shared. This type of questioning, however, was in fact rarely used. A summary of the data collection is shown below (Table 3).

Table 3: Summary of data collection

Research site	Duration of fieldwork	Observation sessions	Interviews
Cityview ICU	Four months	114 hours collected over 19 separate observation sessions	Ten interviews with: Two junior nurses Four senior nurses One nurse manager One consultant One physiotherapist One pharmacist
Riverview South ICU	Three months	78 hours collected over 13 separate observation sessions	Ten interviews with: Three junior nurses Two senior nurses One consultant One junior doctor One consultant physiotherapist One consultant pharmacist One junior pharmacist
Riverview North ICU	Two months	48 hours collected over 10 separate observation sessions	Seven interviews with: Two junior nurses Two senior nurses One junior doctor One senior physiotherapist One junior physiotherapist

Fieldnotes

Observations were recorded as journal entries in the form of ethnographic fieldnotes; this was the process through which 'scenes, actions, dialogues and experiences [were] turned into written text' (Allen, 2010:363). The writing of fieldnotes was an important consideration as the success of the project relied heavily on the detail, extensiveness and richness of these (Fielding, 1993). As Hammersley and Atkinson (2007:142) state: 'with inadequate [field]note-taking the exercise could be like using an expensive camera with poor quality film. The resolution will prove unsatisfactory, and the results will be poor.'

Fieldnotes were made contemporaneously and later expanded in a chronological form in which the past was retained in the present (Lofland and Lofland, 1984). Three principles govern the note making in order to improve accuracy of notes and facilitate later analysis. The first principle involves identifying the language structure to be used for fieldnote entries (Spradley, 1980; Lofland and Lofland, 1984). Single quotation marks (‘ ’) indicate verbatim (or near-verbatim) quotations, square brackets [ ] indicate a paraphrase and brackets ( ) in the text of the notes indicate insertions to improve readability or understanding. Secondly, the aim was wherever possible to write verbatim accounts of what participants had said. This was often problematic, such as when engaged in casual conversation or listening in to participants’ discussions. In such instances there was insufficient time to accurately record all that was said and so verbatim, albeit partial, records were made which were later expanded. The third and final principle involved consciously avoiding making condensed notes, and instead recording as detailed descriptions of events as possible, regardless of how seemingly unimportant they appeared (Lofland and Lofland, 1984; Hammersley and Atkinson, 2007). In addition, I adopted a ‘low-inference’ (Allen, 2010) style of fieldnotes that captured concrete and ‘raw behaviour’ (Spradley, 1980) leaving aside any final judgements.

Although it was not always possible to capture everything that occurred in the field, initial observations were as detailed as possible bearing in mind that even things that may not have been immediately understood could turn out to be important later (Green and Thorogood, 2004; Hammersley and Atkinson, 2007). Initially this was particularly challenging, as it was difficult to identify a meaningful structure to work with. A strategy to overcome this involved asking questions about the different dimensions of the research settings as suggested by Spradley (1980) and Lofland and Lofland (1984). For example, in the ICU a number of dimensions were identified such as the space, actors, activities, objects, events and time (Lofland, 1971; Spradley, 1980). These dimensions assisted in formulating ‘observation questions’ which I could ask myself and that in turn guided data collection, such as ‘can you describe in detail all of the actors involved in the ICU?’ Having a set of questions to guide observation was helpful in both the structuring of initial data recording and ensuring

comprehensiveness of field notes. In addition, this strategy provided a sense of control over the observation task and reduced any initial anxieties. As a guide to asking descriptive questions, and thus making descriptive observations, Spradley (1980) proposes a question matrix which incorporates nine dimensions along two axes (Figure 2). These dimensions are not an exhaustive list and are not equally important on every occasion, while the exact form of descriptive questions changes from one setting to another. The question matrix was used as a visual aid in providing an initial guide for making observations and checking thoroughness, therefore ensuring important data were not overlooked.

Figure 2: Observational questions matrix (Spradley, 1980)

	SPACE	OBJECT	ACT	ACTIVITY	EVENT	TIME	ACTOR	GOAL	FEELING
SPACE	Can you describe in detail all the *places?*	What are all the ways space is organized by objects?	What are all the ways space is organized by acts?	What are all the ways space is organized by activities?	What are all the ways space is organized by events?	What spatial changes occur over time?	What are all the ways space is used by actors?	What are all the ways space is related to goals?	What places are associated with feelings?
OBJECT	Where are objects located?	Can you describe in detail all the *objects?*	What are all the ways objects are used in acts?	What are all the ways objects are used in activities?	What are all the ways objects are used in events?	How are objects used at different times?	What are all the ways objects are used by actors?	How are objects used in seeking goals?	What are all the ways objects evoke feelings?
ACT	Where do the acts occur?	How do acts incorporate the use of objects?	Can you describe in detail all the *acts?*	How are acts a part of activities?	How are acts a part of events?	How do acts vary over time?	What are the ways acts are performed by actors?	What are all the ways acts are related to goals?	What are all the ways acts are linked to feelings?
ACTIVITY	What are all the places activities occur?	What are all the ways activities incorporate objects?	What are all the ways activities incorporate acts?	Can you describe in detail all the *activities?*	What are all the ways activities are part of events?	How do activities vary at different times?	What are all the ways activities involve actors?	What are all the ways activities involve goals?	How do activities involve feelings?
EVENT	What are all the places events occur?	What are all the ways events incorporate objects?	What are all the ways events incorporate acts?	What are all the ways events incorporate activities?	Can you describe in detail all the *events?*	How do events occur over time? Is there any sequencing?	How do events involve the various actors?	How are events related to goals?	How do events involve feelings?
TIME	Where do time periods occur?	What are all the ways time affects objects?	How do acts fall into time periods?	How do activities fall into time periods?	How do events fall into time periods?	Can you describe in detail all the time *periods?*	When are all the times actors are "on stage"?	How are goals related to time periods?	When are feelings evoked?
ACTOR	Where do actors place themselves?	What are all the ways actors use objects?	What are all the ways actors use acts?	How are actors involved in activities?	How are actors involved in events?	How do actors change over time or at different times?	Can you describe in detail all the *actors?*	Which actors are linked to which goals?	What are the feelings experienced by actors?
GOAL	Where are goals sought and achieved?	What are all the ways goals involved use of objects?	What are all the ways goals involve acts?	What activities are goal seeking or linked to goals?	What are all the ways events are linked to goals?	Which goals are scheduled for which times?	How do the various goals affect the various actors?	Can you describe in detail all the *goals?*	What are all the ways goals evoke feelings?
FEELING	Where do the various feeling states occur?	What feelings lead to the use of what objects?	What are all the ways feelings affect acts?	What are all the ways feelings affect activities?	What are all the ways feelings affect events?	How are feelings related to various time periods?	What are all the ways feelings involve actors?	What are the ways feelings influence goals?	Can you describe in detail all the *feelings?*

As the fieldwork progressed, I became less preoccupied with Spradley's matrix and instead became more selective in my fieldnotes, paying more attention for example to intra- and inter-professional, verbal and non-verbal, interaction in the ICU, and paying attention to differences between the interactions of senior and junior staff, both during key events (such as the ward round) and during moments of routine and urgent work such as patient deterioration. Note taking, however, proved to be a more challenging endeavour than anticipated since it was difficult to observe simultaneously the different scenes of the setting and also write down notes in a clear and orderly fashion. This became even more problematic since the layout of the three ICUs did not accommodate a space to stand in the background and make observations unobtrusively. Additionally, the process of note taking initially seemed to attract attention from staff, which exacerbated my feelings of awkwardness. One of the early visit's fieldnotes reflects this awkwardness:

> *Initially I sought out Kim (the sister in charge for the day) to let her know I would be around for a while. As I could not locate her initially, I thought I should position myself somewhere near the nurses' station for observation. This proved difficult, as there was little room for me to sit down without getting in people's way; for example when they needed to use the telephone, computer, access to cupboards etc. Also, the nurses' station was quite busy so I couldn't really just stand there.*
>
> (Cityview ICU: 1)

Utilising Lofland and Lofland's (1984) approach to note taking was instrumental in overcoming this issue. While Spradley (1980) argues for the researcher to, as far as possible, make continuous entries to the fieldnotes, Lofland and Lofland (1984) propose that the first step would be to prepare the mind to remember as many details of the setting as possible via 'mental notes'; then take short 'jottings' whose aim is to provide a visual aid to trigger the observer's memory later on and finally to withdraw from the setting at regular intervals to expand jottings to more concrete accounts. In practice, there were occasions where just standing in the background and making notes inconspicuously was successful, such as during handovers between shifts. This was interpreted to be because everyone's attention was drawn elsewhere while most

held some kind of document and took notes themselves. On other occasions, such as during discussions with staff, the use of mental notes and short jottings was found to be more appropriate. Examples of fieldnotes made contemporaneously are provided in Appendix Four.

Fieldnotes were reviewed and expanded on breaks and following each observation visit. Mostly this process took place immediately after I left the field, however on some occasions, when it was late in the evening or after a night shift, I delayed until the next morning (or after I had slept). Although this was slightly unsettling, as I was concerned that the passage of time would lead to details being lost, under high levels of tiredness the process would be futile. Indeed, Lofland *et al.* (2006) argue that memory decays very little during sleep. This is because, they argue, forgetting has more to do with the acquisition of new experience than with the sheer passage of time. Therefore they suggest that 'it is reasonably safe to sleep on a day's or evening's observations and to write them up the first thing the next morning' (Lofland *et al.*, 2006:111).

Data analysis

The analysis of ethnographic data does not consist of a standard recipe or formula, and does not necessarily occur only at a distinct stage of the research (Coffey and Atkinson, 1996; Hammersley and Atkinson, 2007). Indeed, in the current study the collection of data and the process of writing the report contributed to the analysis. Ethnographic analysis is somewhat distinct as a data analysis method in that it deals with what is often referred to as 'unstructured data': the data are not already constituted or organised in terms of a finite set of analytical categories (Hammersley and Atkinson, 2007). For the current study, such data included observed professional interaction and conversations during day-to-day work. The process of ethnographic analysis often involves, simultaneously, the development of a set of analytical categories that capture relevant aspects of these data and the assignment of particular items of data to those categories (Hammersley and Atkinson, 2007). The theoretical ideas and assumptions of the interactionist perspective to the division of labour, as detailed in Chapter Three, were used inductively to inform the development

of the analytical categories and interpret the observational and interview data amassed (Wilson and Chaddha, 2009). The actual data analysis steps are detailed separately, however the principles that guided how the data were treated are discussed below.

Blumer (1969) argued that on-going group life, such as health professional work in ICU, takes place on different levels of exposure and depth, at least as far as people's perceptions of it is concerned, and therefore knowledge of it can be to a different extent for different people. For example, people who perceive nothing of it can know essentially nothing of it; people who participate in it can have greater knowledge of it, although if they are naïve and unobservant their knowledge may also be restricted; and, people who are very observant can have fuller knowledge. However, there will always be elements of experience that are unknown to everyone. The analysis of such group life therefore necessitates an expanded and deeper perception of it so that a more accurate awareness of what is taking place is gained; as Blumer stated: 'The task of scientific study is to lift the veils that cover the area of group life that one proposes to study.' The means of achieving this, Blumer argued, is by following the two principles of 'exploration' and 'inspection'. In the current study, by remaining mindful of the exploration principle, I aimed to form a close and comprehensive acquaintance with the broad range of observational and interview data collected about health professional work in ICU and draw from this to progressively sharpen the analysis. Then, by following the inspection principle, I drew upon my theoretical concepts (as described below, see focussed coding), for example 'boundary work' (Gieryn, 1983) and 'jurisdiction' (Abbott, 1988), and examined how these were encountered and became operationalized in day-to-day ICU practice. In this way, the analysis did not limit itself to recounting and summarising what professionals were observed to do or talk about. Instead, there was a conscious attempt to examine what the professional interactions observed had to indicate about the social processes professionals appeared to engage with and about the tacit rules that appeared to guide their practice.

Analysis of data for the current study paid attention to the means and methods whereby health professionals organised and performed ICU work, as well as the more

tacit rules and norms that guided their practice. For example, it was noted that nursing staff would help out other nurses with their workload without being explicitly invited to do so. This appeared to be because of a tacit agreement among ICU nurses to be aware of each other's workload and help out when they deemed it to be necessary. Although this was not openly discussed among staff, it was something that characterised many nurse-nurse interactions observed. Moreover, health professional interaction was analysed both in terms of professionals' exhibited behaviour and their informal conversations, bearing in mind that through everyday talk people also perform social actions (Coffey and Atkinson, 1996). Such actions include offering justifications or excuses for themselves or others, providing explanations for events and actions, and attributing motives to their own and others' actions. This analytical focus revealed the reasoning behind different health professionals' jurisdictional claims making over patient treatment decision-making.

In the current study, data analysis consisted of six overlapping processes: a) organising, b) familiarising, c) initial coding, d) focussed coding, e) categorising and f) communicating.

Organising

In the first instance the data were carefully organised in order for these to be retrievable and easily managed. This was facilitated through the use of NVivo 8, a qualitative data-handling software package (QSR International Pty Ltd.). Fieldnotes were organised chronologically; in addition to the typed fieldnotes, digital photographs of all handwritten notes were also taken and stored as images. Similarly, interviews, once transcribed verbatim, were imported into NVivo alongside the original voice recording. Data were stored in separate folders according to the different research sites.

Familiarising

The next step involved reading through the entire dataset, both fieldnotes and interviews, in chronological order and per research site. This aimed to establish a level of familiarity with the dataset as a whole and develop an initial sense of the kind of analytical ideas that might arise (Hammersley and Atkinson, 2007); these ideas were

noted in memos (Schatzman and Strauss, 1973; Charmaz, 2006; Allen, 2010) that were later expanded, refined or abandoned as the analysis progressed (examples provided in Appendix Five).

Initial coding

Once an initial level of familiarity with the kind and volume of data collected was established, the next step included a careful re-reading and coding of fieldnotes and interview transcripts in order to provide the infrastructure for the later stage of the analysis, in particular the searching, retrieval and grouping of codes (Hammersley and Atkinson, 2007). Codes provided the means through which to think about the data and explore interesting lines of inquiry (Allen, 2010).

Initial coding was intentionally dense in order to remain faithful to the many possible topics that could be discoverable. Both *in vivo* (actual participants' expressions) and descriptive (researcher developed) labels were applied to segments of data that indicated an idea of analytical potential. Initial codes included professional behaviours such as 'global view' and 'stepping in' (*in vivo* labels), and 'nurse-nurse support' and 'nurse-junior doctor interaction' (descriptive labels). In addition, key clinical incidents that revealed 'professional disputes' were identified such as 'getting a patient out of bed', 'weaning a patient off the ventilator' and 'sudden patient deterioration' (Appendix Six).

Focussed coding

Following the initial coding, the data were re-approached and a more focussed coding process occurred. Schatzman and Strauss (1973:118) argue that analysts need to gain conceptual leverage on their data; by leverage they refer to 'any thinking device that both distances the analyst from his data and provides a new perspective on them, so that he may enter into a new relationship with his data'. Such leveraging required the identification of some 'sensitising concepts' (Blumer, 1954:7) that would enable me to make sense of what was documented by the data. Sensitising concepts provide researchers with a general sense of reference and guidelines in approaching empirical instances, suggesting directions along which one is to look (Blumer, 1954). Drawing from the literature review and theoretical perspectives consulted, the concepts of

work ‘jurisdiction’ (Abbott, 1988), professional boundary and ‘boundary work’ (Gieryn, 1983) were especially relevant. As examined in Chapter Three, Abbott (1988:20) identifies ‘jurisdiction’ as the core hallmark of a profession, which he defined as the ‘link between a profession and its work’. A professional boundary can refer to a bundle of jurisdictions that signifies the distinction between two professions. ‘Boundary work’ involves attributing selected characteristics to a profession in order to construct a social boundary distinguishing it from other professions or activities (Gieryn, 1983).

Using jurisdiction and boundary work as sensitising concepts I approached the data seeking instances of professional interaction that indicated areas of jurisdictional dispute or ambiguity around professional boundaries. Through this, shared jurisdictions were identified, such as between doctors and pharmacists in relation to prescribing (Chapter Nine) and disputes between professionals about patient treatment decisions analysed, such as weaning a patient off the ventilator (Chapter Eight). Moreover, the processes through which the various professions in ICUs distinguished their work from that of others and the means through which professional claims over decision-making were mounted and settled were examined.

Categorising

The aim at this stage was to examine any patterns arising from the data, any contradictions with what might have been expected given existing theory and areas that illuminated current debates. For example, following Abbott (1988) I expected to find clear evidence of jurisdictional disputes, which he theorised to be perpetual in the workplace. In contrast, disputes were not pervasive in day-to-day practice but rather the exception.

In order to undertake a systematic analysis, codes were examined and grouped under broader categories consisting of the different professional boundaries: the intra-professional boundary between nurses, and the inter-professional boundaries between nurses and doctors, and between allied health professionals. Once an initial coding scheme was developed, data were revisited looking for further supporting or opposing evidence (Schatzman and Strauss, 1973). Moreover, codes and categories

were examined for their properties and conditions. For example, professional interaction appeared to differ between staff of different seniority. Senior nurses appeared more confident and direct, especially with junior doctors, while junior nurses were subtler and more indirect in their approach (Chapter Eight). In addition, the urgency of the work appeared to influence the way in which professionals interacted and coordinated their work.

The aim was then to develop an elaborated model or typology (Barton and Lazarsfeld, 1955; Lofland, 1971; Lofland *et al.*, 2006) of health professional work in ICU. This process was partly successful: codes were grouped under distinct professional boundaries (intra-professional and inter-professional) and cross-tabulated to show differences between varying conditions of work intensity across the spectrum of work (low to high urgency) (appendix eight). The interplay of such factors within the overall analytical scheme, however, was too complex to be represented in a linear form in a model or diagram. In addition, I gradually became unconvinced of the added benefit of developing such a model that would oversimplify the complex reality of working in an ICU. Glaser (1978) warns about the 'logical elaboration' of ones categories, which he claims should not be extended beyond their analytic value. Similarly, Hammersley and Atkinson (2007:174) caution that 'there is little point in developing highly systematised typologies, and models, if they provide little purchase on one's data'. Therefore, I chose to introduce the properties and conditions of my categories throughout the examination and discussion of the findings, where pertinent, but opted not to force the findings into a kind of model that would ultimately provide little analytical merit. Throughout the reporting of findings (Chapters Six to Nine) illustrative fieldnote extracts and interview quotes are included to enable the reader to make their own assessment over the potency of the analysis.

Communicating

Communicating the findings to others, or 'audience conjuring' (Schatzman and Strauss, 1973), through discussions and written reports also acted as an important leveraging process. Through this, a close familiarity with the report was developed, while feedback from others enabled new perspectives and linkages between the data to be identified, thus refining the analysis. Throughout the study, and especially during

the write-up stages, preliminary analysis plans and draft reports were regularly communicated with colleagues and supervisors. Discussions of the surfacing analytical concepts and avenues provided useful perspectives on how to approach the data as well as different kinds of ideation. For example, initial response to the write-up of findings alerted me to the subtle differences in interactions between senior and junior staff, between units, and during busy and quiet periods of work. This allowed me to strengthen the comparative elements in the examination of findings, as well as consider the dimensions and conditions of arguments made. This process of communicating the work was also helpful in deciding the structure through which to present and lay out the findings in this report so that it represents an intuitive, easy to follow and systematic approach.

Presentation of findings

In order to present a systematic analysis, provide a logical sequence and give sufficient weight to the work of different health professional groups in ICUs, the findings are presented in four chapters: The Context of ICU Work; The Organisation and Delivery of ICU Nursing; The Division of Labour Between Doctors and Nurses in ICU; and The Contribution of Allied Health Professionals to ICU Work. In each chapter, the findings of the research are firstly presented under relevant themes and then critically discussed and interpreted *vis a vis* theory and wider literature.

Firstly, in order to contextualise the research and set the ground for subsequent analysis, the context of the three ICUs studied is examined. Here, the key characteristics that distinguish ICUs from other hospital areas are systematically unpicked to draw attention to the clinical exigencies of this setting which influence the division of labour taking due account of: a) the ICU material space; b) the ICU patients' condition; and c) the ICU staff and their work routine. These key features of the ICU indicate this to be a distinctive hospital setting and set the conditions for the findings examined in subsequent chapters.

Secondly, the analysis focuses on ICU nurses as the largest health professional group delivering patient care in this setting. The intra-professional organisation of nursing work, including the distribution of jurisdictions across the nursing hierarchy, and

means of delivering ICU care are critically considered. In addition, the processes through which ICU nurses were identified to collectively accomplish ICU nursing in day-to-day practice are examined. The nursing division of labour is revealed here to be a supportive structure, which helps to forge a cohesive identity among ICU nurses. ICU nurses were found to endorse a patient-orientated rather than a task-focussed discourse with a limited set of jurisdictions shared across junior and senior nurses. By avoiding an elaborate jurisdictional structure, ICU nurses avoided intra-professional disputes over jurisdictions, which facilitated the development of a firmer nursing boundary in ICU centred around nurses' up-to-date and intricate knowledge of the patient condition. Moreover, in response to the unpredictable and fluctuating nature of the patient condition and ensuing workload ICU nurses operated a supportive mechanism characterised by two processes, the 'global view' and 'stepping in'. Through the tacit enactment of these two processes ICU nurses supported each other to prevent emergencies and maintain a seamless ICU service.

ICU doctors, alongside nurses, formed the core workforce in intensive care and so it is to the nursing-medical boundary that the analysis in the third findings chapter turns. The role and position of ICU consultants and junior doctors *vis-a-vis* nurses is examined first. ICU consultants identified themselves, and were acknowledged by nurses, to hold ultimate decision-making authority over patient treatment, although nurses claimed responsibility for the minute-to-minute patient care. However, this was not unquestionably accepted or applied in every instance. In particular, during day-to-day practice doctors and nurses appeared to accomplish and maintain their professional boundaries through their interaction with each other in response to clinical exigencies while remaining flexible and open to fresh demands. Claims over treatment decisions appeared to draw from different health professionals' care priorities.

Finally, allied health professionals have been largely overlooked in the healthcare division of labour literature, but were found in the current research to be claiming a greater contribution to ICU work. The fourth findings chapter examines the position of allied health professionals in the ICU, focussing in particular on pharmacists and physiotherapists who visited the units often. Both professional groups were found to

have established a presence in the ICUs, although the position of pharmacists appeared to have been more firmly acknowledged.

Conclusion

In this chapter the research process of the current study has been made transparent to enable an assessment of the validity of claims made in the chapters that follow. Issues of access, reflexivity, data collection and data analysis in particular have been critically considered. Throughout the next four chapters, data from fieldnotes and interviews are introduced to illustrate relevant analytical points. Interview quotes and fieldnote extracts are presented in italics and each quote or extract is introduced in the text. For interview quotes the research site and participant pseudonym is provided in brackets; for fieldnote extracts the research site and fieldnote entry code is indicated. Fieldnote extracts have been grammatically and cosmetically improved for clarity.

Chapter Six: The Context of ICU Work

This first findings chapter examines the clinical features and exigencies of the ICU as a distinct setting in the hospital to set the context for the subsequent analysis and frame the synthesis and examination of findings in subsequent chapters. The research literature from British ICUs suggested that the ICU holds distinct properties as a clinical space within the hospital. These were attributed primarily to the critical nature of ICU patients' conditions (Melia, 2001; Coombs, 2004). Through the current research the key role of patients in shaping the nature and organisation of health professional work was confirmed. In addition, close examination of the ICU setting revealed further key features of this distinct hospital setting. The layout, equipment, typical work process, kind of patients and staff in ICUs are examined in turn here. Taken together these features of the ICUs reveal the properties and conditions within which ICU professionals in the current study organised and accomplished their day-to-day work.

ICU setting

ICU health professionals undertook their work within a particular clinical setting and distinct structural space within the hospital. The three ICUs studied possessed characteristics that were different from the average hospital ward. Riverview North and South ICUs were part of a large teaching hospital Trust accommodating 840 patient beds with an annual budget of over £800 million. In contrast, Cityview ICU was located in a much smaller teaching hospital Trust of 430 beds with an annual budget of just over £280 million. The hospital Trust in which Riverview North and South ICUs were located was one of the oldest hospitals in England, had a history dating back to the 19th century and was located in a prestigious but rather old building. The hospital in which Cityview ICU was located was formed more recently out of an amalgamation of smaller hospitals and was established in a modern building, built less than 20 years before the research took place.

Riverview North and South ICUs cared for both 'level 2' and 'level 3' patients (Table 1, page 36) and together had a capacity of 30 patients. Each unit was a distinct area of 15 beds and was located in a separate area of the hospital (Figure 3 and Figure 4). The

layout of Riverview North ICU followed an ‘H’ shape (from the point of view of its entrance) with the relatives’ lounge, sisters’ office, staff rooms, laboratory and nurses’ station in the middle of the unit and with the patient bed spaces positioned on each side. Riverview South ICU followed a ‘T’ shaped design with the majority of ICU beds placed in a long line one after the other. Cityview ICU was a much smaller mixed ICU/HDU unit with just 11 patient beds (seven ICU and four HDU). The layout of Cityview ICU followed a more open-plan ‘U’ shaped design (Figure 5). Figures Three, Four and Five illustrate the floor plans of the three units in approximate scale, with blue dotted lines indicating their overall layout and shape.

Figure 3: Riverview North ICU

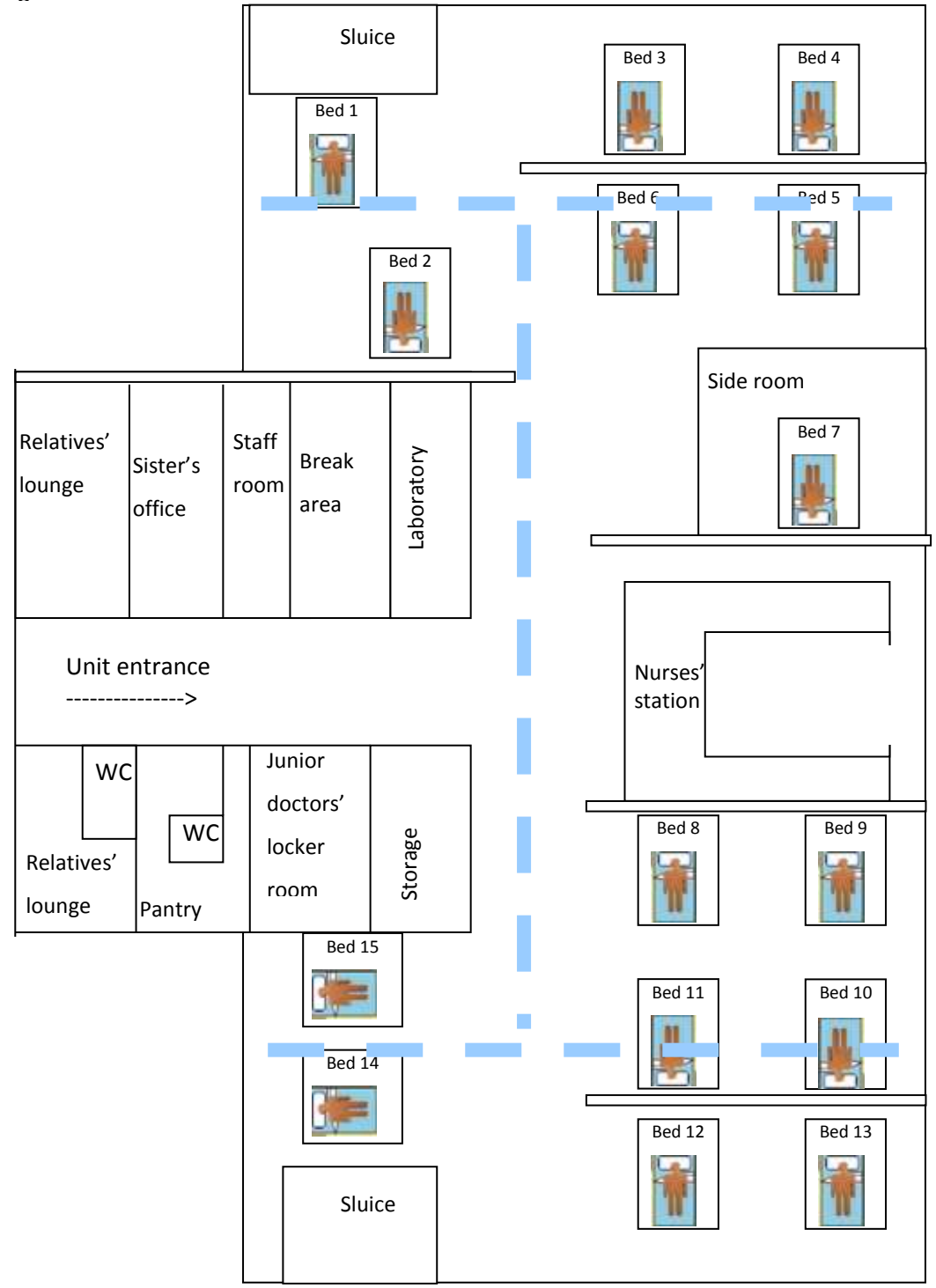


Figure 4: Riverview South ICU

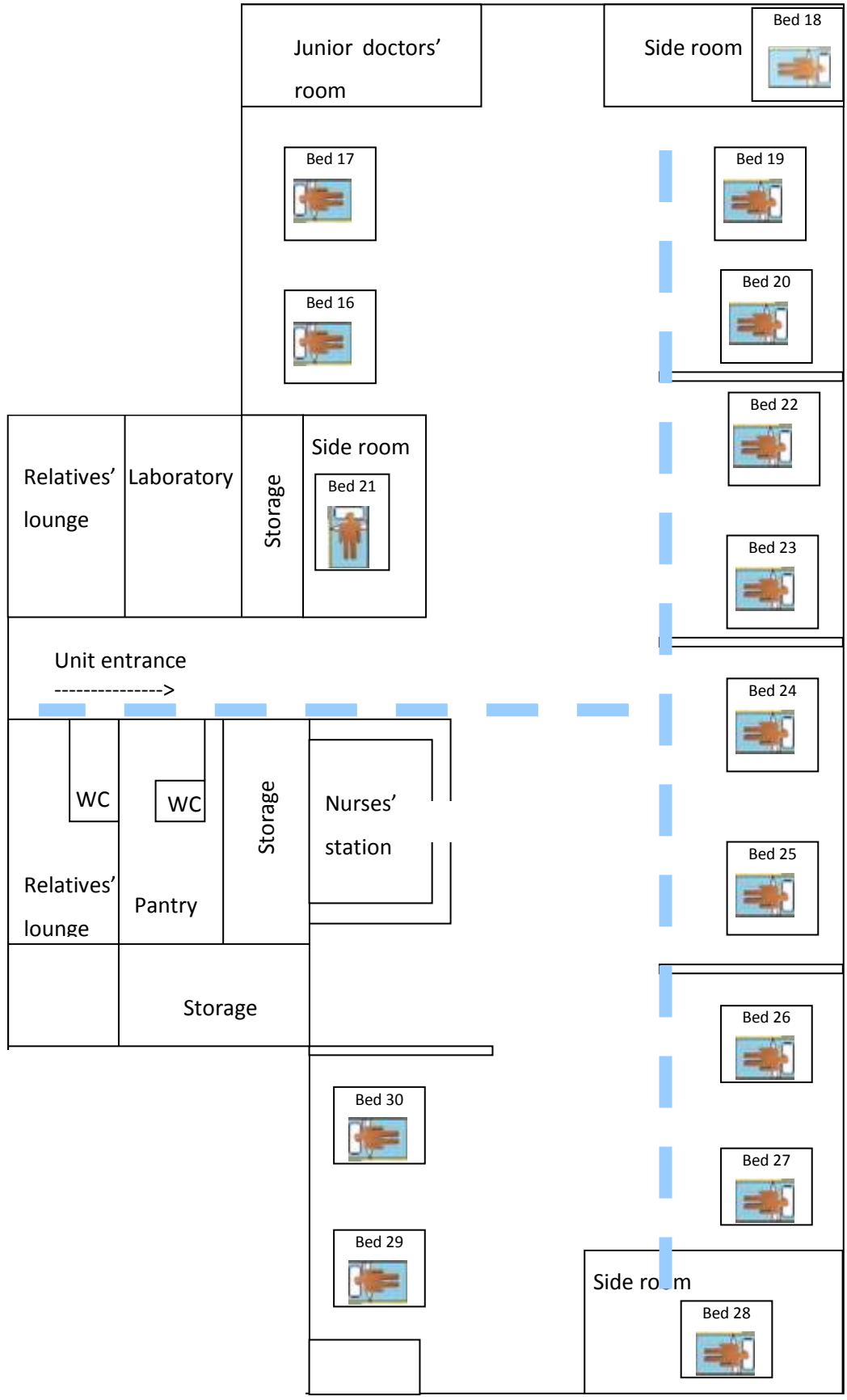
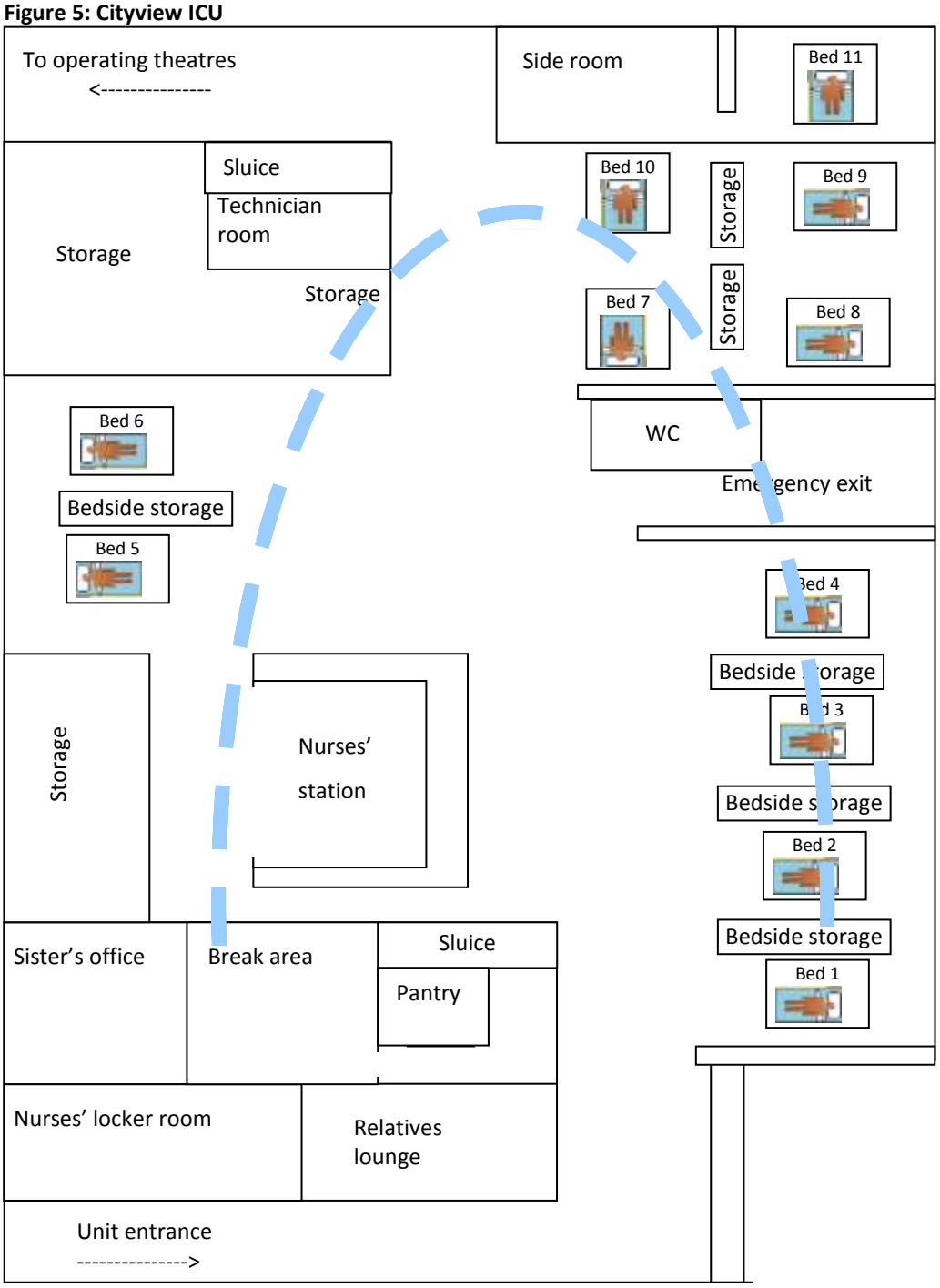


Figure 5: Cityview ICU



Despite their different layouts the three ICUs followed similar design principles, consisting of three main elements. These were the entrance and relatives' area, the main ICU area with the patient bed spaces and the central nurses' station. These are examined in turn next.

ICU entrance

Entrances to the ICUs at Riverview North, South and Cityview were secured by automatic double swing doors for which swipe card access was needed. Access was monitored via a CCTV and intercom system. Upon arrival, unauthorised personnel or those without swipe card access were asked to press the buzzer and after identifying themselves were granted access to the ICU. The security system was connected to the nurses' station, mainly manned by the unit administrator or clerk during the day or other ICU staff such as nurses or doctors during the night.

Various guidelines concerning the organisation and design of ICUs support the introduction of security measures such as a single secured entrance for staff and visitors (ICS, 1997; DH, 2003). This serves as protection of staff and patient belongings as well as the requirement of a hygienic environment to protect critically ill and vulnerable patients. However, Carmel (2003; 2006) argued that the existence of a protected entrance also implies a kind of separate organisation work, subsequently introducing a boundary between the ICU and the rest of the hospital. This serves to reinforce intensive care practitioners' control and authority over their clinical specialty.

The secured entrance to the ICU, unlike most other hospital areas[3], suggests intensive care has developed as a distinct hospital territory under the authority of intensive care clinicians. Although overall consultants' control over their practice areas and their patient beds diminished following the introduction of hospital bed managers (Green and Armstrong, 1993; 1995), in contrast to other hospital specialisms intensive care consultants have managed to retain their autonomy with ICU beds kept firmly under their control (Carmel, 2006). This is referred to as 'closed ICU' and is a distinct organisational feature of most British ICUs (ICNARC, 2003). By contrast, North

[3] Maternity and children's services provide similar exceptions.

American ICUs are referred to as 'open ICUs' and are mainly set up to provide a service (intensive observation and monitoring) to other hospital specialists, through which ICU consultants provide advice but the referring consultant remains responsible for patient welfare (Carmel, 2003).

Although in the current research intensive care consultants continued to be impervious to bed managers, held authority over unit admissions and took over responsibility for patients once admitted to the unit, the ICUs were found to be accessible to other health professionals from across the hospital. For instance, consultants from other specialties such as cardiology, neurology or dermatology were encountered in the ICUs addressing specific patient issues pertinent to their specialism, although their involvement was typically preceded by a request from an ICU doctor for consultation. Moreover, allied health professionals such as pharmacists and physiotherapists were also frequently encountered in the unit addressing patient needs, although such professionals were not based in the ICU.

Consequently, the ICUs in the current research were not found to be the separate hospital entities proclaimed by Carmel (2003), but rather permeable organisational units within the hospitals, which on one hand managed to maintain authority over their organisational boundary while on the other remained accessible to health professionals from across the hospital. This difference from Carmel's research (2003; 2006) is likely a reflection of the organisational changes to ICUs introduced following DH (2000b; 2005b) policies calling for a breaking down of boundaries between the ICU and other hospital services and an increase in the involvement of nurses and allied health professionals in this setting. This also lends weight to more recent reports, such as by Durand *et al.* (2010), who having evaluated the impact of DH (2000b; 2005b) policies in English ICUs identified the existence of a more seamless service between the ICU and wider hospital and a rise in the presence of allied health professionals in ICUs.

Relatives' lounge

Passing through the ICU entrances in all three units one encountered the relatives' lounges positioned at the side of a wide corridor leading into the main unit area. The

lounges were equipped with sofas, a coffee table, water cooler and announcement boards with relevant information concerning the Trust in general and the ICU in particular (the poster with information about this study was also placed here). These lounges were primarily used by patients' visitors, although staff could also use them for meetings when vacant. Visiting hours in the ICU were 'open', meaning visitors could visit the unit any time during the day at the discretion of the bedside nurse, with the patient's condition dictating whether or for how long they could stay with the patient. Usually visitors were asked to wait in the lounge until the bedside nurse was ready to call them through to the clinical area. As explained in Chapter Five, patients' relatives did not form part of the current study. Although this is acknowledged to be a limitation of the current research, such restrictions are not uncommon in such investigations (e.g. Allen, 2001; Coombs, 2004). Carmel (2003; 2006), however, did examine ICU nurses' work with patients' relatives and concluded that it was a part of nursing work in ICU which nurses valued. While caring for patients' psychosocial aspects may be rendered difficult in ICU due to patients' lack of consciousness, Carmel (2003) identified that nurses in the units he studied had ample opportunity to provide psychosocial support to patients' relatives instead. In this way nurses maintained their claims of providing a distinct contribution to care in ICU; caring for patients' relatives although not unique to nurses, was a nursing responsibility in the first instance (Carmel, 2003).

In the current research, however, nurses were not identified to be so preoccupied with patients' relatives as Carmel suggested. In contrast, ICU visits by relatives were rather limited. While the ICUs in the current study and those in Carmel's (2003) research had an 'open' visiting policy, a likely reason for this difference may lie in the different geographical locations of the two studies. Most of Carmel's fieldwork was undertaken in a District General Hospital in the North of England, while the ICUs in the current research were all within central London. Moreover, Riverview North and South ICUs were part of a Hospital that acted as a tertiary referral centre and so patients could come from further away. This may have limited the accessibility of the ICUs and relatives' opportunities for frequent visits. In addition, in the ICUs studied here, it was not infrequent for staff to be seeking patients' relatives but to be unable

to locate any; this was often the case for patients admitted via the emergency department following an accident.

Main ICU area

Past the relatives' lounge more rooms were found such as storage, a pantry used primarily by healthcare assistants for tasks such as heating food or preparing hot beverages for level two patients who were able to eat, a laboratory used mainly by nursing staff to undertake certain tests such as arterial blood gas (ABG) analysis, and staff locker rooms. At Riverview, the entrance to Riverview North ICU only differed from Riverview South ICU in that it also hosted the sister's office and a small break area accessible to all resident ICU professionals.

Riverview North, Riverview South and Cityview ICUs followed a similar principle in unit layout where the staff locker room, relatives' lounge, pantry, coffee area and storage space were nearer the entrance to the unit, with the nurses' station situated centrally. The rest of the units were made up mainly of bed spaces positioned peripherally. This layout served practical as well as infection control purposes. For example, the working area for non-clinical staff was situated closer to the entrance/exit of the units to avoid contact with patients as much as possible. Similarly, cooking or beverage-making facilities were kept away from the clinical area and possible sources of infection. Consequently, the actual clinical area of the ICU was restricted to those healthcare professionals who had a direct input to patient care, limiting access to non-ICU professionals.

Nurses' station and bed spaces

The nurses' station in all three units was formed of a combination of work/desk surfaces and storage units, as well as chairs, computers, printer, telephones and filing and announcement space. Shelving was also available and used for storing relevant unit protocols and medical, nursing or pharmacology books such as the British National Formulary. The nurses' station was mainly occupied by the unit clerk or administrator who was responsible for answering the phones, allowing access to visitors in the unit via the intercom system and ensuring the patient register was up to date.

Despite its name, the nurses' station was most frequently occupied by medical staff and other health professionals such as pharmacists and dieticians who required computer access. Nurses themselves only tended to use the nurses' station when using the telephone and computer, or as a meeting point when seeking support from colleagues. In the vicinity of the nurses' station there were also whiteboards providing information and contact details about the on-call medical and other specialist professionals such as surgical consultants or pharmacists.

At Cityview ICU, the computers at the nurses' station were commonly used by doctors to review patient x-rays, admit or discharge patients, and issue orders for diagnostic tests, and by nurses to document developments in the nursing care plan. Since there were no computer terminals by the bedsides, the nurses' station at Cityview ICU was in constant use. In contrast, at Riverview North and South ICUs, computer terminals by each bedside meant there was less need for doctors and nurses to use the computers at the nurses' station. These were mainly used by the unit clerks to update patient lists and respond to emails, and by allied health professionals to review patients' notes, prescriptions and treatment plans when the bedside terminals were occupied by either doctors or nurses. This difference between units was identified to influence the range of inter-professional discussions. In particular, while at Riverview ICUs most inter-professional discussions occurred during the ward round, at Cityview ICU such discussions occurred at different moments throughout the day and night, partly facilitated by the centrality of the nurses' station which served as a point for congregation.

Patient bed spaces were marked by curtain railings indicating the space that could be concealed when curtains were drawn. Bed spaces at all three units commonly comprised an ICU bed surrounded by monitors for checking a patient's vital signs, medication infusion pumps, ventilators and other life-support equipment as needed such as haemodialysis machines. The bed space was predominantly occupied by the bedside nurse who was also responsible for maintaining its functionality by, for example, keeping it re-stocked and ensuring all the technology was functioning as it should. All clinical procedures took place at the bed space as did the ward round attended by the medical staff and other intensive care professionals. At Cityview ICU

each bed space comprised an ICU bed with relevant life-support machines as did Riverview North and South ICUs; however, it was also accompanied to the side with a storage unit for patient care necessities such as gloves, syringes, needles, gowns and masks. This storage unit served as a kind of physical 'divider'[4] between each bed space, in addition to the available curtains, thus defining the spatial boundaries of each bed space with fewer requirements for walls.

The ICU layout set the physical context within which health professionals delivered patient care. In comparison with general hospital areas, the ICUs catered for a relatively small number of patients within a specifically shaped space. Out of all ICU professionals, nurses' work was most affected by the unit's layout since unlike other health professionals, nurses remained within the unit for the duration of their shift and did not normally move between the ICU and other hospital areas. This was because ICU patients required constant monitoring and care. The ways in which the ICU layout influenced nurses' work is examined in Chapter Seven. Further to the minor variances observed between the three units, Cityview ICU also differed from Riverview North and South ICUs in relation to its use of technology.

ICU technology

Although Riverview North and South ICUs were located in a historic building and Cityview ICU in a newly built building, the ICUs at Riverview were more technologically advanced. Riverview North and South ICUs both ran a paperless environment in which patient records, professional notes and test results were kept in digital form. These could be accessed from bedside computers operating a relevant clinical information system. Access to these records was also made possible remotely via other Riverview hospital computers with intranet connectivity. Access was limited to those health professionals providing direct care to particular ICU patients such as doctors, nurses, pharmacists and physiotherapists. In contrast, Cityview ICU continued to use paper for patient, medical and nursing notes, as well as medication and vital signs charts, although laboratory results and x-ray scans were accessible in digital form.

[4] The term 'divider' was one used by the intensive care professionals themselves to describe the bedside storage unit.

The technological difference encountered at the two hospitals appeared to be largely due to the preferences of the lead consultants. The main argument for the use of the electronic information system was the detailed medical record, which doctors needed to access frequently, review and complete; availability of patient data; and access to information through the internet. The lead consultant at Riverview South ICU commented:

> *We all have to use it in a way that makes it easy to review each other's notes if you want to catch up on a patient. And obviously everything is accessible because it's electronically stored. It also of course links in ideally to any protocols and guidelines you've got, because it's computer based obviously, you can link into protocols, guidelines, advice, the internet, everything, intranet. So it's an immensely powerful tool.*
> (Riverview South ICU: Peter, medical consultant)

Similarly to the lead consultant, all the professionals spoken to at Riverview North and South ICUs were enthused by their information system. In contrast, the consultant at Cityview ICU held more constrained views about the functionality of such a system. In particular, the main argument against its use was that it increased time spent on computers, which, he argued, detracted from time spent on actual patient care. In particular, he commented:

> *We haven't actually got an ICU management system that is functional. Each time that we have computer access, while it is meant to actually increase efficiency, and reduce nursing time doing stuff, it actually increases it, and the benefit is we have it on a computer, but it takes nurses away from the patient and it doesn't actually make the nurses' lives easier. It increases it. So it is actually, at the moment, I see it as being counterproductive, at present.*
> (Cityview ICU: Alan, medical consultant)

The difference in use of such technology was examined to identify whether it influenced the organisation of work in ICU. For example, some processes at Riverview North and South ICUs, such as the filling in of the patient record, were clearly mediated through the information system. However, outside the minutiae of such work processes, the overall principles under which the ICU professionals were found

to organise their work were ultimately rather similar across units despite this difference in use of information systems.

For instance, the prescribing of patient drugs was done electronically at Riverview ICUs while at Cityview ICU it was paper-based. This did not affect matters of who was responsible for the prescribing, nor did it affect the way in which nurses administered the particular drugs or requested amendments to prescriptions. Similarly, the process for ordering and dispensing drugs by pharmacists at Cityview ICU was managed manually while at Riverview ICUs this was facilitated by the electronic system. This however did not change the rules as to which professional was responsible for the prescribing and which for the dispensing. Consequently, the electronic system used at Riverview served more as a tool to facilitate professionals' work processes rather than to shape the division of labour in any way.

This supports similar conclusions reached by past research in ICUs. In particular, research examining the introduction of technology in ICUs identified that the effects of medical technology on the minutiae of processes of health professional work were temporary and transient (Alasad, 2002; Wilkstrom and Larson, 2004). For example, evaluation research in North American ICUs, incorporating observational techniques, concluded that while the introduction of clinical information technology in an ICU was identified to initially affect the conduct of the ward round, by shifting medical attention from the patient to the computer, in time the conduct of the ward round returned to its previous format as professionals became accustomed to this (Morrison *et al.*, 2008). The electronic information system used by the ICUs examined in the current research was already in place before the research commenced and it is therefore likely that ICU staff had already become accustomed to this.

In summary, examination of the ICU setting, its layout and equipment shows these to follow distinct design principles which operate to reify the ICU as a distinct clinical area over which ICU professionals retain authority.

ICU patients

The condition of patients in ICU was distinctive and differentiated from other hospital areas. In particular, patients in the ICU were critically ill suffering from multiple organ

failures, largely in a highly unstable condition and mainly unconscious. In order to identify the implications this have had on the organisation of health professional work in ICU, each of these key characteristics is examined here in turn.

Critical illness

The patients in the ICUs observed were in a critical condition of varying degrees of severity. Most were 'level three' patients (DH, 2000b) requiring advanced respiratory support together with support of at least two organ systems. ICU patients were therefore physiologically weak, vulnerable and in a life-threatening condition. Consequently, the prognosis for ICU patients was uncertain, as the next quote from the lead consultant at Cityview ICU illustrates:

> *When you get a patient in through the door, although some of the time you can make a reasonable prediction on what is likely to happen, a lot of the time you can't. And none of our systems tell us on an individual basis either the outcome or length of stay for that patient.*
> (Cityview ICU: Alan, medical consultant)

Given the uncertain nature of ICU work (Carmel, 2003; Coombs, 2004) the focus of ICU professionals was primarily to provide life-support until the patient recovered or was stable enough to be transferred back to the hospital wards. To this end, ICU patients were supported via various life-support machines that maintained the function of their vital organs and kept them alive.

In particular, patients were intubated and on ventilators to support their breathing; some were on haemodialysis machines to support their kidneys and on medications via intravenous routes to support their cardiac function. Once (if) patients became physiologically stable and able to support their own organ function, they were gradually weaned from the machinery and ultimately discharged.

Physiological instability

Although the life-support equipment provided an element of control over the function of patients' vital organs (Harvey, 1997), patients' conditions were still considered to be rather unstable and sudden patient deterioration was not uncommon in the ICU.

This was because different organs required different levels of support and as patients became stronger or weaker that support required adjustment (either intensification or withdrawal), as highlighted by a senior physiotherapist at Riverview North ICU in an interview:

> *[In ICU] you are not sure what you are going to face in terms of the patient condition and especially a patient's condition can fluctuate during the day. Because it isn't as structured, for example, like an outpatient environment where you've got booked appointments and so forth, it doesn't really work like that. We need to cater more for changing patient conditions.*
> (Riverview North ICU: Stephanie, band six physiotherapist)

The critical and unstable nature of ICU patients' conditions therefore had implications on the kind of care ICU patients required. For example, they required close monitoring and continuous adjustment of treatment regimens and level of machine support. These features required nurses to have an up-to-date and intricate knowledge of patients' progress to feed back to other health professionals, especially ICU doctors. As will become apparent in Chapter Seven, these held significant consequences for the organisation of work in ICU with regard to patient care.

Unconscious state

While in an unconscious state patients naturally did not have input to their treatment or care. Consequently, treatment decisions relied primarily on healthcare professionals and, on occasions, the patients' relatives. This was particularly problematic when decisions to withdraw treatment had to be made. Although this has the potential to raise ethical dilemmas for ICU professionals, in the current research this was not a topic that dominated professional discussions. This appears to contrast with Melia's (2001) conclusions about the frequent and challenging ethical decision-making that the ICU nurses interviewed in her study faced. A likely reason for this difference is that since DH ICU modernisation policies (2000b; 2005b), the criteria for admission to an ICU were refined to ensure that only those patients who have a reasonable chance of recovering from their illness get admitted. Indeed, in the Durand *et al.* (2010) evaluation study, average patient mortality in ICUs and length of stay

reduced substantially in the years following DH (2000b; 2005b) policies. Consequently, these changes may suggest that ICU staff may not be faced with such ethical issues as often as they used to. Moreover, Melia did not specify the time frame within which her interviewees were asked to reflect on their experiences. Therefore, it is not clear if the ethical dilemmas Melia found were indeed a frequent occurrence or whether the experiences her interviewees shared were over a longer period of time.

Although such issues were not encountered during the fieldwork, during interviews some nurses' comments suggested this may have been an issue of concern. During an interview, a junior nurse at Cityview ICU commented:

> *Care decisions, well they should always be for the patient, with the view of being for the best of the patient. What would this patient want? And I think, most of the time we try and follow that. Well, I'd like to think we do actually, but we probably don't. I think now that we can provide the care and we can keep these people alive, I don't necessarily know that we're doing it for the right reasons now. I think we're doing it because we can a lot of the time and not because that's what the patient wants. Or sometimes we're doing it because the family wants it, when actually the patient might not have wanted that.*
>
> (Cityview ICU: Tracy, band five nurse)

In the above quote, Tracy alluded to one of the core anxieties of nurses in ICU, which was the provision of patient-centred care in accordance with the patient's wishes. This partly contrasts with Carmel's (2003) findings. In his ethnography of ICU work, Carmel (2003; 2006) argued that because ICU patients were largely unconscious, nurses did not have the opportunity to interact with them, consult their wishes and act as their advocates in the same way that general ward nurses do. Instead, nurses in ICU, Carmel concluded, tended to act as advocates of the patients' relatives rather than the patients themselves. While the above quote from the junior nurse in the current study partly confirms ICU nurses' attention to relatives/family wishes, it also indicates that patients' own wishes remain a concern for these nurses. A likely reason for this difference in findings between the current and Carmel's research may be found in the kind of participants interviewed. In particular, Carmel's research was more concerned

with the organisation of ICU services and so followed nurse managers and senior nurses more closely. In fact, Carmel reports to have interviewed only three nurses, all of whom were senior staff. The ICU nurses' anxieties identified here were largely expressed by junior nurses who worked closer and longer with ICU patients by the bedside compared with senior nurses who also took on more managerial aspects of work.

However, it was not only the unconscious state of patients that limited their input to their care; even when patients were in a stage of recovery, and therefore semi-conscious, their input continued to remain minimal or overlooked. For example, a junior nurse at Riverview South ICU shared the following during an interview:

> *The man I was looking after, and I'd walk in some days and he'd say, 'I want to die.' Well I'm trying to provide care for this man who tells me he wants to die. Meanwhile, we'd spent three weeks on him already working as hard as we could, bringing him back from the edge or whatever, keeping him alive, and I said to him, I said, 'This is the wrong place, we won't let you die here.'*
> (Riverview South ICU: Danni, band five nurse)

The aim of ICU work appeared to be to keep patients alive, sometimes regardless of whether this conflicted with the patients' own wishes. The ICU was therefore, as indicated in the above quote, primarily a place of survival and not dying. Despite this, the average ICU mortality in England at the time of the research was 15% (Hutchings *et al.*, 2009). Therefore, for a substantial proportion of patients, the ICU also appeared to be a place of suffering, since regardless of the invasive interventions to which patients were subjected, a significant proportion of them ultimately died.

ICU nurses, as the professionals closest to and in longest contact with ICU patients, appeared to be the professionals most attuned to this fact. Consequently, nurses in the ICU appeared to be more sensitive on matters regarding their patients' comfort and quality of care compared to other ICU professionals. This was at the heart of most disagreements between healthcare professionals, particularly as the medical focus was largely on patient progress and the nursing focus was largely on patient comfort.

ICU patients' care trajectory

In examining medical work, Strauss *et al.* (1985:8) employed the concept of a patient illness trajectory to refer 'not only to the physiological unfolding of a patient's disease but to the total organisation of work done over that course'. More recently, Allen *et al.* (2004) and Hannigan and Allen (2011) referred to care trajectory as a more refined concept to utilise in studies of complex health conditions, especially considering that patients increasingly continue to live with their illnesses post-hospitalisation into the community. For ICU patients, care trajectory appears to be a particularly appropriate concept since critical care is only an intermediary stage in patients' illnesses and their overall hospital stay. Through examination of fieldnotes and conversations with staff from all three units, a typical ICU trajectory was identified and is shown next. In doing this, the aim is not to provide an in-depth examination of the entire parcelling out of tasks involved but rather to illustrate the typical course of ICU work in which professional interaction was studied in the current research.

A typical patient care trajectory in ICU involved four stages: admission, support, recovery and discharge (or death). During the admission stage (one), the patient was received by ICU nurses and doctors, and connected to a number of organ support equipment, such as ventilators and haemodialysis machines, in which the primary aim was to stabilise the patient through active control of bodily functions. At this stage a number of diagnostic tests were also undertaken to capture a baseline measurement of the patient's condition, which served as an indicator of patient progress. Here, the admission process involved mainly routine work from both ICU nurses and doctors, which they undertook largely independently of each other, while allied health professionals had little to no involvement.

The second stage involved maintaining patient life support and bodily functions through interventions and administration of high dosages of sedation and other drugs, mainly in support of the patient's cardiovascular system and ventilation. At this stage the treatment the ICU patient received was directed at resolving the underlying issue, when that was identified, strengthening the patient physiologically and preparing them for the next stage, recovery. This was the lengthiest and most work-intensive stage, which necessitated coordinated input from different health professionals and

was characterised by close and frequent inter-professional interactions. Given the attention of the current research to inter-professional work, this was the stage observed most closely and from which most of the data examined were drawn.

For the recovery stage to commence the patient must have been identified as making progress in terms of improvement of vital signs and main organ functions. At this stage the process of gradually withdrawing active treatment commenced to enable the patient to support their vital functions unaided. The key process here was weaning the patient off the ventilator and preparing them for discharge. The weaning process was nurse-led, with occasional physiotherapy input, but the actual decision to extubate a patient from the ventilator rested with the consultant. This was found to be an area of dispute between nurses and doctors, examined closely in Chapter Eight.

If the recovery stage was successful, indicated by the patient supporting their own organs (e.g. breathing) and requiring little drug support, then the patient progressed to the final stage in which they were discharged to the ward. However, if the patient was unable to support their own organ functions, then the patient gradually deteriorated and required more aggressive treatment with higher ventilation support levels and drug dosages. If the recovery stage was not successful then gradually treatment was withdrawn or the patient could deteriorate and die suddenly.

Patients' stay in the ICU was relatively brief, with the average duration being between three and six days. This is consistent with the average length of stay in England (Durand *et al.*, 2010). At different stages the patient received care from different health professionals, although the middle stages were the lengthiest and the ones in which inter-professional work was most needed; consequently these serve as the main focus of the analysis in subsequent chapters.

ICU staff

Nurses and doctors constituted the core of the ICU professionals. ICU patients required one-to-one nursing care and so nurses were the largest professional group in ICU, followed by doctors and allied health professionals; clinical pharmacists and respiratory physiotherapists in particular.

Riverview North and South ICUs together employed over 180 staff including nine intensive care medicine consultants, junior doctors (between four and six depending on rotation) and over 170 nurses (Table 5). Nurses rotated between the two units on a six-monthly basis. The majority of nurses were junior band five nurses, followed by more experienced band six nurses and senior band seven nurses. Administratively, both ICUs at Riverview were under one central management with a lead medical clinician responsible for the medical staff and lead nurse manager (band eight nurse) responsible for all nursing and support staff.

Cityview ICU, a much smaller unit, employed 61 nurses and five consultant anaesthetists (Table 4). The five consultants were supported by a respiratory consultant and a microbiologist, in addition to a group of junior doctors (between three and five depending on the rotation) who rotated every three to six months around the hospital. The unit was led by a consultant anaesthetist together with a clinical nurse lead whose role was similar to the nurse manager at Riverview ICUs. While specific details concerning the role of ICU nurses, doctors and allied health professionals are examined in Chapters Seven to Nine, a brief overview is provided here to introduce these and set the groundwork for the analysis to follow.

The majority of the nursing staff at Cityview ICU were experienced band six nurses, in contrast with Riverview North and South ICUs where the majority of staff were band five nurses. Proportionally, Cityview ICU employed more band seven nurses (19%) compared to Riverview ICUs (7%). At Riverview ICUs, band seven nurses predominantly took on the role of the nurse in charge dealing more with the management aspects of the unit such as planning the staff rota. Band six nurses mainly acted as intermediaries between band seven and band five nurses, cared for their own patients and provided support, guidance and mentoring to junior nurses. Similarly to Riverview ICUs, the role of band six nurses at Cityview ICU was to support the more senior band seven nurses and mentor the band five nurses. However, in contrast to Riverview ICUs, the band seven nurses and the clinical nurse lead at Cityview ICU also regularly did clinical shifts taking patients under their care and working alongside junior staff. Thus they were not constantly occupied with the

managerial aspects of their role but kept in close touch with more clinical aspects and mentoring of staff.

Table 4: Riverview North, South and Cityview ICUs staff

Riverview ICUs (staff equally shared between North and South)			
Capacity	*Staff*		
30 beds	**173 Nurses**	**Consultants**	**Support & AHP Staff**
Mixed ICU/HDU (level 3 and 2)	2 Band 8	9 Intensive care medicine	6 Physiotherapists
	11 Band 7		3 Pharmacists
	72 Band 6		4 Housekeepers
	88 Band 5		2 H/C Assistants
			2 ICU clerks
			Outreach team (not unit based)
			Dieticians (not unit based)
			Speech and language therapists (not unit based)
			Technicians (not unit based)
			Bereavement officers (not unit based)

Cityview ICU			
Capacity	*Staff*		
11 beds	**61 Nurses**	**Consultants**	**Support & AHP Staff**
ICU (level 3) = 7	1 Band 8	5 Anaesthetists	1 Pharmacist
HDU (level 2) = 4	11 Band 7	1 Respiratory consultant	2 Physiotherapists
	30 Band 6		2 Housekeepers
	19 Band 5	1 Microbiologist	2 Dieticians
			2 Volunteers
			1 H/C Assistant
			1 Technician
			1 Bereavement officer
			Outreach team
			1 Administrator
			1 Staff Development Officer

On the medical side, the ICU consultants across units were supported by a group of junior doctors, specialist registrars (SpR, between four and eight years in training) and senior house officers (SHO, two to three years in training), who rotated across the hospital every three to six months. ICU consultants were primarily responsible for setting the medical care plan for ICU patients and overseeing the work of junior doctors. Junior doctors were primarily responsible for executing the consultant's plan

and troubleshooting patient issues with nurses as these arose. Unlike general hospital wards, in the ICU junior doctors rarely worked completely independently but were under the supervision of ICU consultants, a conclusion also reached by Carmel (2003; 2006).

A dedicated team of physiotherapists and pharmacists covered and provided support to the ICUs. These teams held offices off-site and although frequently witnessed in the units, their presence was not constant. In addition, the ICUs were also supported by other allied health professionals such as speech and language therapists and occupational therapists who visited the units infrequently, as well as support staff such as healthcare assistants, housekeeping staff, and technicians. Outreach teams (DH, 2000b) at Riverview North and South ICUs and Cityview ICU were not unit based and were also not frequently observed visiting the units. Because the current research focussed on examining health professional work undertaken within the ICU itself, the work of outreach teams outside the ICU was not examined.

ICU staff routine

The routine of ICU work was standard between Riverview North, Riverview South and Cityview ICUs. Indeed, during the first week of data collection at each unit a pattern to the day of the ICU became clear. Only minor differences were observed between the three units such as the timing of certain activities. Therefore, the overall routine of all three units will be examined next, highlighting any differences between the units as they arise; a summary of key events during the 24-hour day is presented in Table 5. Overall, the day of the ICU can naturally be clustered into the morning, afternoon and night period.

Table 5: Key events during the 24-hour period

Cityview ICU		**Riverview North and South ICUs**	
7.30am	Nursing handover, 10-15-minute followed by 1:1 handover by the bedside	**7.45am**	Nursing handover, 15-30-minute followed by 1:1 handover by the bedside
8am	Medical ward round – about 1 to 2 hours	**8am**	Medical handover followed by the ward round which had no time limitation
9.30am – 10.30am	Nurses organised themselves into staggered 15-minute coffee breaks. Similarly for the junior doctors.	9.30am – 10.30am	Nurses organised themselves into staggered 15-minute coffee breaks. Similarly for the junior doctors but depended on the consultant on duty.
12pm – 2pm	30-minute lunch break for staff	12pm – 2pm	30-minute lunch break for staff.
1pm	Nursing handover to afternoon shift – 10-minute .		
3pm – 4pm	Nurses organised themselves into staggered 15-minute coffee breaks.	3pm – 4pm	Nurses organised themselves into staggered 15-minute coffee breaks.
5pm	Afternoon ward round – about 45 minutes		
6pm	Office staff and medical staff finished their work.	6pm	Office staff and medical staff finished their work.
8pm	Nursing handover to night shift.	**8pm**	Nursing handover to night shift.
10pm– 11pm	Nurses organised themselves into 30-minute breaks.	10pm– 11pm	Nurses organised themselves into 30-minute breaks.
12am – 2am	Nurses organised themselves into 1-hour breaks.	12am – 2am	Nurses organised themselves into 1-hour breaks.
4am	Nurses commence preparations for the day shift.	4am	Nurses commenced preparations for the day shift.
7.15am	Morning shift nurses arrived.	**7.30am**	Morning shift nurses arrived.

Morning period

The ICUs were at their busiest in the morning with patients going for major tests such as computerised tomography scans (CT), patients being discharged or admitted, and a high presence of health professional, administrative and housekeeping staff. At Cityview ICU, the nursing staff on the morning shift arrived at the unit just after 7am

and a fifteen-minute handover between the night and morning staff began at 7.30am. This was a quick handover which took place at the nurses' station involving the night bedside nurses approaching the morning nursing staff and in about two to three minutes reporting on the current condition of the patient under their care, highlighting any major incidents that had occurred or any planned interventions or tests for the day. The format of this reporting was consistent, starting with the patient's name and bed space number, continuing with the date of admission and diagnosis, current condition (particularly regarding respiratory and cardiac function), and ending with the plan of care and current medications. The telegraphic nature of the handover was primarily used to provide all nurses on the shift with an overall view of the patients and is consistent with reports in the literature (Strange, 1996; Coombs, 2004). A more detailed handover followed this initial exchange between night and day nurses by the bedside, which included aspects such as patient progress, and social and family concerns. While Carmel (2003) criticised ICU nurses for their biomedical-oriented handover, lacking concern for psychosocial issues, his analysis was limited to the unit-level handover and appeared to overlook the one-to-one bedside handover found in the current research to be inclusive of such matters.

Although the handover reporting format was consistent, the style of delivery differed from nurse to nurse. For example, junior members of staff tended to speak quickly using a low tone of voice while looking down in the patient's notes, chart or other documents which they held in front of them. More senior or experienced nurses rarely held any documents in front of them and spoke at a steady pace with a clear tone of voice while maintaining eye contact with the morning staff. One such example is described in the following fieldnote entry:

> *Marie (band five nurse) walked up to the nurses' station to handover her patient to the morning shift. I noticed her crouching slightly, her shoulders dropping forward, looking down in the file she was holding (patient notes) while turning pages forwards and backwards without really reading from it. She commenced her report using a low tone of voice; I could barely make out what she was saying. I looked around to see the rest looking at the floor or in their teacup, checking their phones or fixating their look somewhere across the unit.*

> *Following Marie came Doreen (band six nurse) immediately standing upright close to the morning staff now in a relaxed semi-circle formation, clapping her hands together before proceeding with her report. Doreen spoke with a firm clear tone, in short sentences, pausing and looking around in between to receive nodding signs from the rest of the nurses. She appeared to be quite animated raising her arms to point at things or emphasise her points. The morning staff no longer had abstract looks and instead followed Doreen and nodded along to her report.*
> (Cityview ICU: 22-23)

Overall, junior members of staff across units appeared uncomfortable and less confident with the handover while it was clear that more experienced staff were adept at a more assertive style of communication. This was exemplified during the handover but was also a wider characteristic of junior nurses' communication approach. Despite this, junior nurses did not appear to be challenged by their colleagues and instead waited for the one-to-one handover by the bedside that followed, during which particular questions could be asked. This difference in the communication pattern between junior and senior nurses is a point examined further, particularly in Chapters Seven and Eight, since it was found to be significant in health professional interaction during their day-to-day work.

The day at Riverview North and South ICUs started slightly differently with the nursing handover at about 7.45am. In contrast with Cityview ICU, the handover took place in the nurses' break area, away from the main unit area. In addition, at Riverview North and South ICUs the handover mainly consisted of the night shift nurse-in-charge handing over all of the patients' conditions to the day shift nurse in charge and other day staff nurses. However, the handover appeared to be mainly between the two nurses in charge as they faced each other during the process, rarely engaging with any of the other staff. In response, the morning staff did not appear to engage with the handover since eye contact was minimal and most would occupy themselves with other activities such as going through their diaries, having a hot drink or sitting still with their eyes closed. The handover at Riverview North and South ICUs lasted approximately 20 minutes.

Once all patients were handed over, the nurse in charge for the day would allocate nurses to particular patients. Because ICU patients required constant one-to-one nursing care, and close and continued observation, once nurses were allocated to particular patients they then spent their remaining shift caring for that patient within that particular bed space. Characteristically, ICU nurses talked about being 'stationed' in a particular bed space, a term which denotes physical presence in a location from which one cannot freely leave. Therefore, nurse allocation was significant in that it largely shaped an ICU nurse's entire shift.

The process of nurse allocation was similar across units, and could be highly directive with the nurse in charge informing nurses as to where they were being allocated, or elective in the sense that nurses would state any preferences they had. Overall, however, allocation was aimed at ensuring patients received optimal care, taking into consideration staff development and training needs, while maintaining a certain degree of continuity of care, as the following extract indicates:

> *Immediately after handover, Arnold (band seven nurse) allocated nurses to patients for the day.*
> *Arnold: 'Right, anyone here yesterday?' A few nurses nodded positively.*
> *Arnold: 'Happy to carry on?' All nurses seemed happy to do so as they got up and proceeded to the unit.*
> *Arnold: 'Jules, (band five nurse) you can go to Mr Smith next to Sarah (band six nurse, acting as mentor to Jules)… Anyone else? OK, Mary will you take Mrs Jones, Stephanie Mrs Stephen,… Thank you.'*
> (Riverview South ICU: 57-58)

Patient familiarity was a primary concern and nurses would aim to look after the same patients until they were discharged. This created continuity for patients and allowed nurses to develop a high level of intimacy with the patients and in-depth knowledge of their conditions. Newly admitted patients would be matched to more or less experienced nurses according to their care needs, and a final consideration would be nurses' development in terms of their skills and clinical exposure. Moreover, attention was paid to ensuring that junior nurses worked in close vicinity to senior nurses in case they needed support. This nurse allocation principle of providing continuity of

care and developing a high level of intricate knowledge with patients' conditions is identified in Chapters Seven and Eight to be pivotal in nurses' claims over patient treatment decisions.

The medical staff would come to the units just before 8am and prepare for the ward round which took place soon after. During the ward round the junior doctors, led by the consultant, would proceed from patient to patient reviewing their status and deciding any changes to their care plan or further treatment needed. The nurse in charge would typically join the ward round although would frequently be called away to answer queries or deal with issues that arose concerning the unit, patients or the nursing staff. This contradicts Carmel's (2003) findings of ICU nurses in charge actually following through the ward round, further highlighting the differences in the organisational practices of the ICUs studied in this research and in Carmel's work. Moreover, unlike previous ethnographic studies of ICUs (e.g. Zussman, 1992; Coombs, 2004; Carmel, 2003; 2006), in the current study allied health professionals such as pharmacists and physiotherapists were also found to join the ward round on different days of the week. This practice, however, differed between allied health professional groups, and between Cityview ICU and Riverview North and South ICUs. This issue is examined further in Chapter Nine.

At Cityview ICU, the ward round typically lasted for two hours and included discussions concerning the patients' conditions and subsequent courses of action as well as the consultant teaching junior doctors. These discussions primarily took place between the doctors, while the bedside nurse only contributed occasionally, which was typically after the doctors had finished with their discussions and just before they moved on to the next patient. However, at Riverview North and South ICUs the daily ward round lasted three times as long and sometimes carried on into the late afternoon. Here, the medical ward round was mainly preoccupied with filling in the various sections of the patient's electronic record. This led to a more structured approach to the discussion which essentially consisted of a series of questions and answers between consultants and bedside nurses. There was minimal teaching or questioning of junior doctors by consultants. Apart from answering questions, bedside

nurse contribution, similarly to Cityview ICU, was only solicited after the doctors had all their questions answered and before moving to the next patient.

This pattern to the ward round in the ICUs examined in the current study appears to partly lend weight to Coombs' (2004) findings of ICU nurses being excluded from and not having equal input to patient treatment discussions. However, the current study did not identify overt attempts by doctors to exclude nurses from the ward round, but rather observed a lack of initiative from nurses to contribute to ward round discussions; this was found for junior nurses in particular. This was an issue consultants themselves appeared to have identified. Following a ward round, Mark, a medical consultant at Cityview ICU, commented about this and the following fieldnote entry was made:

> *Mark talked about how junior nurses don't interact with the team at the ward round: 'They try to look busy doing something else, fiddling with equipment, making notes'. He didn't understand why.*
> (Cityview ICU: 138-139)

The apparent lack of interaction by junior nurses with the ward round was also identified by Zussman (1992) from his study of two North American ICUs. In that study, Zussman was critical of ICU nurses for not providing input to patient care discussions and argued that they did not have a unique contribution to make as nurses; instead they had become mini-interns (interns being a term he used for junior doctors). While Zussman argued that this lack of input applied to all ICU nurses, in the current study it was the least confident and junior nurses who appeared to avoid overt input to ward round discussions. This is likely related to the aforementioned issue of junior nurses lacking confidence and assertive communication styles, rather than being disinterested or unwilling. In addition, while Coombs (2004) and Zussman (1992) focussed their analysis almost exclusively on ward rounds, in the current study much of the interaction between nurses and doctors was identified outside of the ward round and to consist of passing conversations; the nature of these interactions, especially as they relate to the doctor-nurse boundary, is examined in depth in Chapter Eight.

Following the ward round at each unit, the junior doctors would meet to discuss and allocate patients and 'jobs'[5] that needed doing amongst them, while the consultants would leave the unit to attend to administrative or clinical matters in other areas of the hospital. The rest of the day evolved around the care plan decisions taken during the ward round and around patients' conditions, dealing with issues as they arose.

While at both the ICUs at Riverview nurses worked a twelve-hour shift, at Cityview ICU they also had the flexibility to work a six-hour day shift thus leaving or arriving for work in the afternoon at about one o'clock. The majority of nurses at Cityview ICU did both twelve-hour and six-hour shifts. For illustration, an indication of the various activities undertaken by ICU staff during the morning at Riverview South ICU is presented in Table 6. This table was developed following detailed scrutiny of the fieldnotes to identify observed activity in a chronological fashion. While effort was made to ensure a comprehensive capture, it is naturally limited to the activities observed during the field visits. The table serves to illustrate the multiplicity and complexity of tasks undertaken at any one time by different health professionals in order to enable an appreciation of the landscape within which the analysis presented in the proceeding chapters is situated.

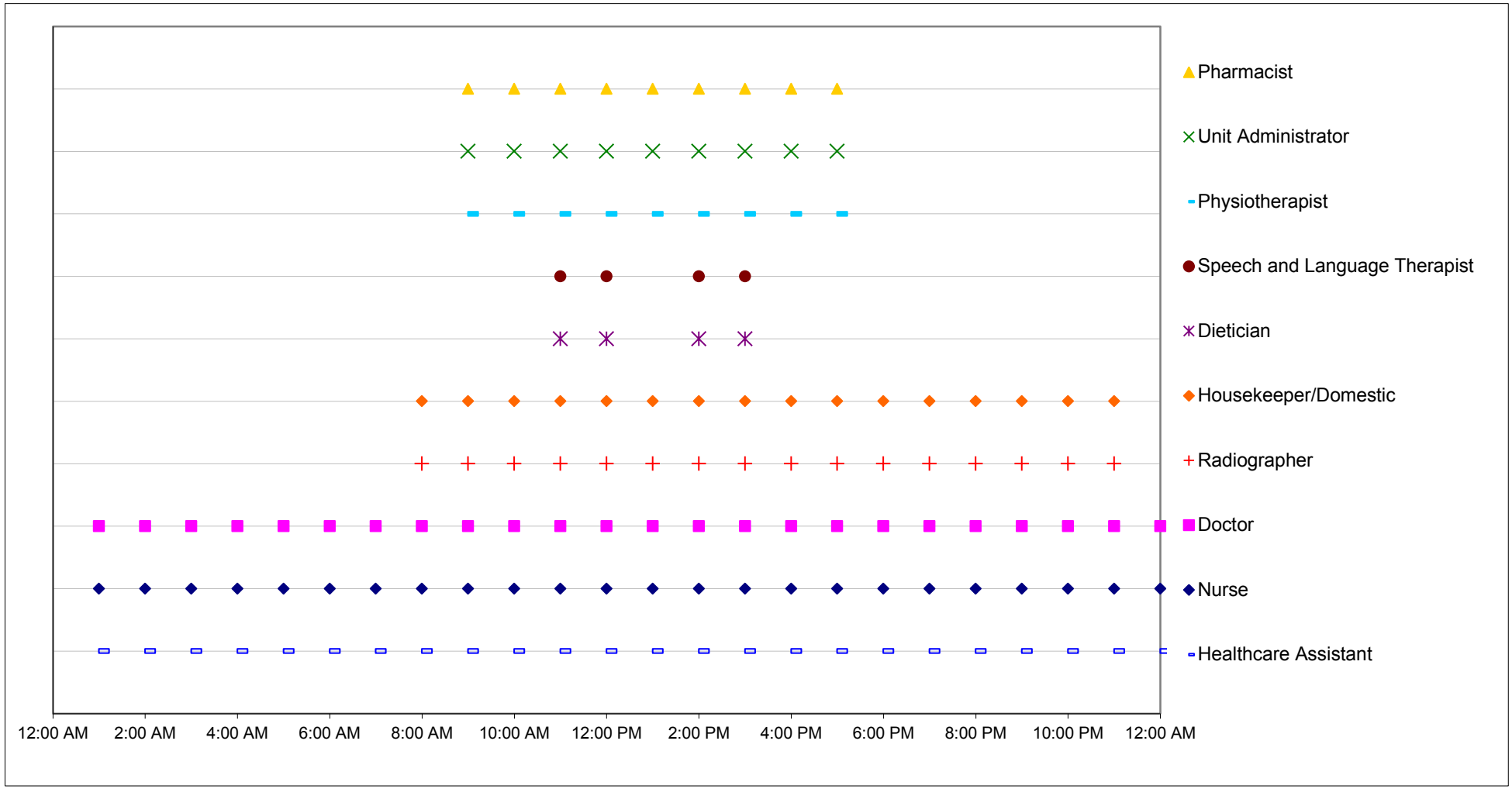
The business of the units peaked around late morning and early afternoon, when other professionals such as physiotherapists, pharmacists, radiographers or porters would also visit the unit. The physical presence of the various intensive care professionals at the unit during the 24-hour period is shown in Figure 6; the figure was developed by examining the fieldnotes to identify the kind of professionals observed to be at the ICU at different times of the day. Nurses were the professionals delivering most direct patient care and were present throughout the 24 hours, closely followed by medical doctors. From the allied health professionals, pharmacists and physiotherapists were the ones most closely involved with ICU patients' care.

[5] Jobs was a term used by the junior doctors to refer to any interventions or other tasks arising as a result of the ward round.

Table 6: Morning activity at Riverview South ICU

Timeline	7am	7.30	8.00	8.30	9.00	9.30	10.00	10.30	11.00	11.30	12pm	12.30	13.00	13.30
Staff														
Nursing staff	Night shift undertake patient care. Nurse in charge prepares for handover.	Morning staff arrive. Handover followed by allocation in coffee area.	One-to-one handover by bedside.	Night shift ends. Morning staff assess their patients and plan for the day.	One-to-one care. Nurse in charge checks up on staff.	Nurse in charge joins 'bed meeting' –off the unit.	Nurses take half hour breaks between 9am and 10am	One-to-one care.	Communicates patient needs with other healthcare professionals.	One-to-one care.	Lunch breaks between 12 and 13.30.	One-to-one care	Nurse in charge checks up on staff, ensures adequate supplies, communicates with estates, etc.	Lunch breaks end. One to one care.
Medical staff		Night shift junior doctor does quick round.	Night shift junior doctor prepares for handover	Junior doctors arrive at unit.	Consultant arrives. Handover in the doctors' room.	Ward round	Ward round/ patient examination.	Coffee breaks.	Ward round/ patient examination.	Ward round.	Ward round.	Ward round/ patient examination.	Lunch break.	Attends meeting with radiology - discusses cases.
Pharmacist						Arrives at unit. Checks patients' medication chart.	Joins ward round twice a week.	Ward round/ checks patient records.	Ward round/ checks patient records.					
Dietician								Visits patients.	Checks patient records.	Discusses with nurses.				
Physiotherapist				Quick round to patients.	Quick round/ joins handover twice a week.	Attend physiotherapy team meetings twice a week.	Visits patients and nurses.	Physiotherapy to patients.	Physiotherapy/ Suctioning/ rehabilitation.	Physiotherapy/ suctioning/ rehabilitation.	Physiotherapy/ suctioning/ rehabilitation.			
Healthcare assistant	Assists HDU patients		Re-stocking cart.	Going to pharmacy.	Checks stock.	Removes sharps bins.		Taking HDU patients' lunch preferences.	Breaks.	Assists HDU patients.	Stocking linen storage.		Lunch break.	Assists HDU patients.
Housekeeper			Emptying bins.		Re-stocking hand towels.	Mopping around bed spaces.	Mopping around bed spaces.	Breaks.	Dry mopping.		Dusting.	Dusting.	Mopping around nurses' station.	Mopping around nurses' station.
Radiographer						Portable x-ray.	Portable x-ray.				Portable x-ray.		Portable x-ray.	Radiology meeting.
Clerk				Arrives at unit.	Reviews/ updates patient list.	Takes phone calls.	Sorts out patient files.	Sorts out patient files.	Filling, archiving, organising.	Takes phone calls.	Takes phone calls.		Answers queries, allows access to unit via intercom.	

Figure 6: Presence of different ICU staff during the 24 hour period



Afternoon and night period

The afternoon mainly consisted of other health professionals not based on the ICU visiting to see patients who had been referred to them. Such staff included other medical specialists such as surgeons and cardiologists, as well as other allied health professionals such as speech and language therapists and dieticians. Physiotherapists and pharmacists worked most closely with ICU patients and thus visited the unit more frequently (between two and three times a day) and were present for longer both during the morning and afternoon.

Such visits were often made at the request of the ICU consultants or nurses and were typically accompanied by changes to the care plan or necessitated further tests. The majority of admissions to the unit were also during afternoon hours, typically following scheduled surgery or emergency admissions through the emergency department. At Cityview ICU, a second ward round took place between 4pm and 5pm and followed the same structure as the morning ward round, revising the existing care plan and planning for the night. As the ward round at Riverview North and South ICUs often lasted well into the afternoon, a second ward round did not occur there. Administrative and medical staff as well as the majority of allied health professionals finished their work between 5pm and 6pm and left the unit. However, a consultant would remain on call while a junior doctor would remain in each unit overnight.

The night shift overall appeared less busy with the nurses arriving at 8pm and, following a quick handover, they were allocated to patients they would be caring for overnight. During the night, tests or other interventions were rare and any unsedated or semi-conscious patients were encouraged to rest. Nurses would take a one-hour break between 12am and 2am and doctors would tend to rest between 2am and 6am as patient care demands allowed; frequently during that period nurses would phone the doctor to inform them of urgent test results or a critical change in patients' conditions. After 4am the unit started to appear busy again as the nurses prepared the patients for the morning, taking blood samples, monitoring their vital signs and making notes on the patients' history. The morning shift nurses would then arrive and the routine would start again.

Conclusion

In this chapter the setting of the three ICUs researched for the current study was examined, highlighting key features and differences between units. In particular, ICU layout, patient condition, health professional staff and work routine was examined. The ICUs were identified as permeable organisational entities which occupied distinct and unique hospital spaces. Despite all three units following similar design principles, slight differences in layout were noted. These are identified in the next chapter (Seven) to influence the way in which ICU nurses organised and accomplished their day-to-day work. ICU nurses were the professionals whose work was most affected by such layout issues since they were uniquely required to remain within the unit and near their allocated bed space and patient for the duration of their shift.

Within the ICUs, patients were critically ill, physiologically unstable and often had uncertain prognoses. Patients required intimate care, constant nurse attention and involvement of multiple health professionals. Nurses in particular needed to have an up-to-date and intricate knowledge of patients' conditions to feed back to other health professionals, especially ICU doctors; this intricate knowledge that nurses held is identified in the chapters that follow to be pivotal in nurses' claims over patient treatment decisions. Junior nurses across units appeared uncomfortable and less confident in their communication in contrast to senior nurses who were adept at a more assertive style. This difference in the communication pattern between junior and senior nurses is also examined throughout the chapters that follow since it was significant in influencing health professional interaction during day-to-day work.

The professionals who had the most direct and prolonged involvement with ICU patients were ICU nurses and doctors. Allied health professionals, particularly pharmacists and physiotherapists, also appeared to have an important presence across units although previous research in ICU appears to have paid little attention to these groups (Zussman, 1992; Coombs, 2004; Carmel, 2006). The professional boundary between allied health professionals (pharmacists and physiotherapists) and doctors and nurses is examined closely in Chapter Nine to identify the contribution that allied health professionals make to ICU work. However, as different health professionals had different levels and kinds of involvement with patients during their

care trajectory in ICU, variations between different professional groups' care priorities appeared, and were the source of inter-professional disputes. These issues are analysed carefully in Chapters Eight and Nine.

In order to analyse the processes through which the work was organised and the division of labour was accomplished in day-to-day ICU practice, the boundaries between the different health professionals are examined in the following chapters. In the next Chapter (Seven), ICU nurses are examined first as the largest professional group in ICU responsible for most hands-on patient care. Nurses' intra-professional boundary and the processes through which they accomplished the delivery of patient care in ICU provide the focus for the analysis. Chapters Eight and Nine amplify this analysis by examining the boundary between doctors and nurses in ICU and between pharmacists and physiotherapists.

Chapter Seven: The Organisation and Delivery of ICU Nursing

The previous chapter highlighted the restrictions of the ICU setting, the criticality and uncertainty of ICU patients' conditions, the range of health professionals involved and the daily routine of the three units studied. Within that context, ICU nurses organised their work and accomplished the coordinated delivery of nursing care for ICU patients. The focus in this chapter is on the nursing division of labour. Abbott (1988) argued that intra-professionally, status differentials lead to professionally 'impure' and routine work to be given to particular lower status members of a profession. Such 'degradation of work' can have 'profound implications for interprofessional competition' (Abbott, 1988:128). It can lead to internal vertical divisions within a profession, which in turn can generate bitter intra-professional conflicts; these can weaken a profession and make it vulnerable to 'invasion' by other professionals.

An examination of nurses' intra- as distinct from the inter-professional division of labour is undertaken here in order to develop a comprehensive appreciation of health professional work in ICU and set the scene for the analysis presented in subsequent chapters. In doing this, an insight into the foundational work of ICU nurses upon which patient safety hinges is gained that can inform future policy, research and clinical practice. The key issues associated with the division of labour within nursing are considered next in order to contextualise the chapter in existing debates.

The literature reviewed in Chapter Four concerning health professional work in hospitals was found to pay little attention to the intra-professional arena, with some notable exceptions (Allen, 1996; 2001; Melia, 2001). Allen's (1996; 2001) ethnographic work on general hospital nursing identified via interviews reports of tension (ibid:246) and boundary disputes (ibid:255) among surgical ward nurses, and in particular among junior and senior staff, although there was little evidence of explicit conflict on the wards. Allen concluded that the source of these lay in the organisational practices of nursing work, which were reflective of status differentials: junior nurses undertook the more mundane nursing tasks – such as tending to patients' physical and hygiene needs and monitoring patients' vital signs – whereas the more prestigious ones – such as administrating medications, joining the ward round and liaising with doctors – were

held by senior staff. Senior nurses in that ward were reluctant to relinquish control over the work and delegate activities usually ascribed to them to the more junior staff. In contrast, on a medical ward Allen identified nursing work to be organised in a non-hierarchical manner that resulted in less tension among staff. However, as much of the work and responsibility was devolved to junior staff, this inadvertently led them to feel vulnerable and insecure. However, research done in ICUs paints a different picture. Carmel's (2006) ethnographic research on the organisation of intensive care services in three British ICUs did not report any evidence of intra-professional conflict among nurses and neither did Coombs' (2004) ethnography before him. Similarly, Melia's (2001) interview-based study with a group of ICU nurses regarding ethical decision-making reported no evidence of conflict but instead described the ICU nurses as 'tight-knit'. These studies in ICU did not seek to examine the organisation of nurses' work as their primary objective and hence provided little information in that regard. Therefore, intra-professional disputes may have existed but were left unexplored. However, if nurses in ICU do avoid intra-professional dispute and conflicts, then understanding how that is accomplished could lead to lessons for improving the organisation of nursing services in other hospital areas and inform future workforce policies.

The analysis in this chapter draws from Abbott's (1988) theorisation about the intra-professional division of labour in order to clarify and contribute to the literature on the intra-professional organisation and delivery of nursing work in ICU. In order to do this, the overall organisation of nurses' work at the ICUs studied is analysed first, with key differences between the different ICU sites examined. Here, key nursing jurisdictions are identified, as is the contribution of senior and junior nursing staff. Moreover, the overall organising principles of nurses' work in ICU are critically explored, including the extent to which these fostered the kind of intra-professional jurisdictional conflict found in general hospital wards. Then, the analysis turns to the key processes through which ICU nurses accomplished the delivery of day-to-day ICU work. The way in which these processes facilitated the delivery of safe patient care in particular is critically considered. Finally, the elements of the ICU environment and the

characteristics of ICU nurses, which acted as conditions for the observed pattern of interaction, are examined.

Organisation of nursing work

The organisation of nursing work across the three ICUs held certain distinctive features compared with that in general hospital areas. In intensive care, each individual nurse is allocated one patient for whom they exclusively provide care for the duration of their shift. This is unlike general hospital nursing where the nurse-to-patient ratio varies substantially, and where fewer nurses care for more patients (Rafferty *et al.*, 2007). In ICU, nurses were held responsible for all aspects of care for their particular patient's care trajectory. This again can be contrasted with general hospital nursing (Allen, 2001) where staffing levels typically necessitate a distribution of tasks between senior and junior staff following the degradation of work process theorised by Abbott (1988).

In the current study, the organisation of ICU nurses' day-to-day work was found to have little overt complexity. Individual ICU nurses were identified to hold jurisdiction over all aspects of clinical care for their patient, up to and including discharge to the wards. The only aspects of ICU work in which bedside nurses did not have explicit and direct involvement were the managerial aspects concerning the daily running of the unit (e.g. rostering, financing), which were assumed by the charge nurses/sisters and nurse manager. Consequently, there appeared to be two broad key areas of jurisdiction through which ICU nursing was organised: managerial work and clinical work. In this context, clinical work is used to refer to direct patient and relative contact, while managerial work is used to refer to aspects concerning the administrative work surrounding the running of the unit.

In the ICUs there was a clear nurse hierarchy in terms of seniority levels, clearly distinguished by different bands: five, six, seven and eight (Table 7). The most senior nurses undertook little to no clinical work and were mainly concerned with the managerial aspects of nursing work in the ICU. The more junior nurses undertook mostly clinical work and were largely concerned with the practical aspects of

delivering daily care. The four different levels are examined in turn next to focus on the role of each in ICU work.

Table 7: Managerial and clinical ICU nursing work

Nurse band	Seniority level	Managerial work	Clinical work
Eight	Manager	Only managerial work	No clinical work
Seven	Sister/charge nurse	Mostly managerial work	Little clinical work
Six	Senior nurse	Little managerial work	Mostly clinical work
Five	Junior nurse	No managerial work	Only clinical work

Nurse seniority

ICU nurse managers (band eight nurses) across units appeared to have a similar role and responsibility. Nurse managers had little direct involvement with the daily clinical work of the ICU. Instead, they held overall responsibility for matters around unit staffing and budgets, and for representing the ICU in higher-level hospital meetings. There was one nurse manager for Cityview ICU and one for Riverview North and South ICUs. Liaising with a band seven nurse to troubleshoot any matters that arose during the day was the extent of the nurse manager's involvement with clinical work. For example, in an informal discussion with the nurse manager at Riverview South ICU about her work in the unit she stated:

> *I oversee the operational side of things. I am mainly around the unit to check everything is on course, uhm troubleshooting on the unit on a day-to-day basis, interviewing, going to Trust meetings. It's all about manageability and ensuring we work within our budget.*
>
> (Riverview South ICU: Anne, band eight nurse)

As the above quote indicates, the nurse manager perceived her role to consist mainly of holding jurisdiction over the managerial and financial aspects of nursing work in the ICU. As the most senior nurse in the ICU, the nurse manager appeared to hold a higher status compared to other nurses, having access to higher-level Trust meetings around performance and budgeting, despite her obvious distance from actual clinical work.

Similarly with general hospital settings, as can be seen from Table 7, being distant from clinical work appeared to be in parallel with nurse seniority. While not undertaking direct clinical care themselves, nurse managers across ICUs reported a close working relationship with and support for their band seven colleagues.

Secondly, charge nurses/sisters (band seven nurses) oversaw the running of any given shift by ensuring adequate staffing levels, an efficient nurse-patient allocation, adequate supplies, planning for patient admissions and acting as a support mechanism for more junior ICU nurses for the duration of their shift. In the unusual instance where more than one band seven nurse was on shift, the most senior would take the charge role and the other would be allocated to an ICU patient, working clinically with the other band six and band five nurses. Since there was a higher proportion of senior nurses employed at Cityview ICU compared with Riverview North and South ICUs, such occasions were encountered most often there. A charge nurse at Riverview North ICU commented about his work:

> *My responsibilities include shift management on a regular basis and mentoring of staff. Just generally keeping an eye on what's going on, bringing issues to the management, coordinating admissions, discharges, coordinating with the multidisciplinary team, with the nursing staff. Day-to-day organisation, break reliefs, booking of agency staff. Uhm, highlighting problems with various nurses to the management.*
>
> (Riverview North ICU: Damian, band seven nurse)

Charge nurses/sisters occupied an intermediary role between management and clinical practice. Although they were rarely allocated to particular patients for a clinical shift they had limited involvement with Trust-level discussions or long term planning of the ICU. Charge nurses were mainly unit based and were largely concerned with the running of the particular shift they were on and with mentoring staff. As the visibility of charge nurses/sisters was high on the unit, they held greater influence and responsibility over the delivery of daily care but were closer to nursing management than more junior nurses.

Thirdly, band six nurses, who had at least two years' experience in working in an ICU, were mainly involved in clinical work. They were primarily responsible for providing

full care to the particular ICU patient they were allocated. This involved continuous assessment of the patient's progress, delivering relevant treatment including drug administration, assessing the effects of the treatment on the patient, liaising with the consultant and junior doctors on aspects of the patient's care, and when required preparing the patient for discharge. In an interview, Tim, a band six nurse at Riverview South ICU, explained his daily work in the following way:

> *Firstly I will go to the patient; generally I will get a handover from the nurse on the bedside who's been there on the day or night, what's happening on that day, what priorities we have. Then I will make a care plan, work out the priorities of the day, what the plan of care is going to be throughout the day and involves assessing the patient, checking equipment, the bed space etc. It's a case of caring for your patient, one-to-one, responding to problems as they arise, and coordinating care with other members of the MDT (multidisciplinary team) throughout the day. That will go through till the end of the shift. Hopefully the patient will be in a better condition than they were when we started and then hand over the entire history to the next person who comes on.* (Riverview South ICU: Tim, band six nurse)

In addition to their clinical workload, band six nurses, as experienced ICU clinicians, acted as preceptors for junior band five nurses, answering queries if and when needed throughout their shift. Furthermore, they also relieved and provided cover when the charge nurses were on breaks or in meetings and helped with shift management when needed. Consequently, band six nurses, more so than others, appeared to operate in-between the clinical and management boundaries, although the move from the clinical into the managerial needed to be invited by a band seven nurse. Band six nurses occupied a crucial 'in-between' role enabling the articulation of different functions within the unit and thus contributed to maintaining the intra-professional division of labour (Abbott, 1988).

Finally, band five nurses were exclusively clinically based. They were allocated to a patient, usually with a less critical condition, and were supported by band six or seven nurses in delivering care for that particular patient. Band five nurses were considered to be in development, had to attend an ICU course, and were under close supervision

and mentoring by more senior nurses. Patricia, a junior nurse at Cityview ICU, when asked to describe what her work involved in an everyday shift, stated:

> *Oh my God! So much; well basically it is that it is all focussing on patient care, so we normally get a patient who is in our care, and we do everything that's for that patient. So they, all their medications or their hygiene needs, their pressure area care, working with their doctors, seeing what their plan of action is, with their Physios (physiotherapists), you know usually doing chest work, and depending on what their, what system was failing or whatever. Other than that we also, just the general upkeep of the ICU, so keeping the area tidy, doing our cleaning, infection controls, talking to family, or friends of the patients, keeping them informed.*
>
> (Cityview ICU: Patricia, band five nurse)

While senior nursing staff reported providing support to other nurses as part of their work role and responsibility, this did not appear to be the case for the very junior nurses since they were largely the recipients of other nurses' support.

Unlike examples of nurses in surgical wards (Allen, 2001), ICU nurses in the current study did not appear to overtly challenge or question the organisation of their work nor their position in the nursing division of labour. There were two likely reasons for this. Firstly, there appeared to be only two major areas of jurisdiction which enabled a clear hierarchy to be established but fewer jurisdictions to compete over. Secondly, and most importantly, actual nursing care in the ICU was the full prerogative of each bedside nurse. Unlike hospital wards where nursing care can be fragmented and task oriented, in the ICU individual nurses were responsible for every aspect of nursing care that their particular patient required. Ultimate jurisdiction regarding the nursing care for particular patients was held by the bedside nurse.

However, although there was no obvious organisation of nursing work based on allocation of tasks, there was an implicit organisation of work based on 'client differentiation' (Abbott, 1988). As noted in Chapter Six, two important criteria for nurse allocation was patient severity and nurse experience, which suggested that senior and more experienced nurses typically took care of the most critically ill patients with less severe patients matched with more junior nurses. This patient

differentiation as a means of organising work was, however, not discernible in day-to-day practice. This was because all ICU patients were in a critical and life-threatening condition upon admission to ICU, with a largely unpredictable prognosis. This hindered a sophisticated patient differentiation in terms of more or less severe conditions. Indeed, there were instances noted across ICUs when junior nurses taking care of patients who appeared less critically ill or stable suddenly found themselves dealing with a rapid patient deterioration or cardiac arrest. Moreover, across the ICUs no instances were encountered of nurses competing over which patients to be allocated nor was this an issue that bedside nurses overtly discussed. Similarly, there was no obvious differentiation between patients or patient conditions that were deemed by nurses to be more or less prestigious to work with.

This finding reflects those of earlier ICU research (Melia, 2001; Coombs, 2004; Carmel, 2006) and compared with general hospital wards confirms that the interview reports of intra-professional tensions (Allen, 1996:246) and boundary disputes (ibid:255) among surgical ward nurses are not typical of ICU nursing. While Melia (2001) identified through interviewing ICU nurses that the ethical dilemmas they faced was a contributing factor to developing close relationships, the current research suggests that the way in which nursing work was organised in the ICUs studied would likely also be a factor. In particular, by avoiding an over-elaborate division of labour ICU nurses also avoided the bitter intra-professional conflicts associated with degradation of work (Abbott, 1988). In this sense, Abbott's theorisation about the intra-professional division of labour is not fully supported in the current study. Because Abbott's overall focus and interest was with the inter-professional system, his position on this aspect was not developed in detail and supported with illustrative empirical examples. The current study's findings contrast and add to Abbott's theorisation by indicating that extreme degradation of work need not be the norm in the intra-professional division of labour and that, at least in ICU, by avoiding an over-elaborated set of jurisdictions the internal conflicts he theorised can be avoided. In ICU this was also facilitated by not enforcing a system of allocating tasks rather than patients to each nurse; having a high nurse to patient ratio led to nurses holding a fuller jurisdiction over the nursing care of their patient. Given that Abbott associated degradation with professional

vulnerability, the case of ICU nursing may place nurses in the opposite situation, that of a strengthened position *vis-a-vis* other health professions.

The organisation of nursing work as a supportive system

The organisation of ICU nursing work was identified to largely represent a support system rather than a competitive field, in which nurses were always a part of a system and a team of nurses. However, the organisation of nurses into clinical teams differed between the ICUs. To enable a comparative analysis, Riverview North and South ICUs are examined first, followed by Cityview ICU.

Team nursing: Riverview North and South ICUs

At both Riverview North and South ICUs, a variant of team nursing was in place. ICU nurses were organised into ten teams of between ten and fifteen nurses each of various levels of seniority; bands five, six and seven. Each team was led by a band seven nurse. The concept of team nursing was developed in the USA as a means of coordinating and providing continuity of care for hospital patients (Brooks, 1949; 1961). The concept essentially reflects a principle that particular patients should be largely treated by a particular group of nurses so that they can develop greater levels of familiarity, trust and continuity of care. It was precisely this intricate knowledge of ICU patients, intentionally developed through such organisation principles, that ICU nurses used to mount claims over aspects of ICU work, an issue to which the analysis turns in Chapter Eight.

However, at Riverview ICUs the use of these teams served a more managerial rather than patient concern, and appeared to have little effect on the daily organisation of work. The nursing teams here enabled the nurse manager, through the senior nurses, to oversee the performance and manage the development of the large numbers of junior nurses employed at Riverview ICUs. During fieldwork nurses only made reference to these teams when the issue of the individual performance review (IPR) came up or when a team day out was arranged. In his interview, a charge nurse at Riverview North ICU explained:

> *You are head of a team, team of nurses. Your job there is once a year to have an individual performance review, IPR, and try and guide them along sort of a*

career path. Also that's the time for looking at perhaps ways that they could improve what they are doing so if there are any issues that have come up previously during the last year, they should all be addressed there and then.
(Riverview North ICU: Damian, band seven nurse)

In addition to the IPR, these teams also served a social function through what was referred to as team days. Nurses referred to the team days as an opportunity to socialise with other nurses in their team. For example, in his interview, a junior nurse at Riverview South ICU discussed:

Andreas: You mentioned earlier that you have team days out?
Roger: Yes, we have a senior band 7 who is the head of the team and we all go out together and they organise restaurants, bowling, skating.
(Riverview South ICU: Roger, band five nurse)

The need for this team structure appeared to originate from the large number of nurses employed at Riverview ICUs, which made managing them as well as developing familiarity among them challenging. For example, a common concern among nurses was that it took them a long time to get to know the other nurses who worked there, while even some senior nurses who had been employed in the unit for years admitted not knowing all of the nurses. One of the sisters interviewed at Riverview North ICU stated:

One of the issues is that we are a big unit here and it is difficult to know everybody. I was warned when I first came here that uhm, I might be working here for a year and come into contact with people that I've never seen before. It actually took me a long time to meet everyone. And I've been here for a long time, but I still do not know everyone, particularly new people.
(Riverview North ICU: Jacqueline, band seven nurse)

The reasons provided were threefold. Firstly, this was down to the shift patterns. Because nurses worked twelve-hour shifts, they were effectively on duty only three days a week during which they worked with a limited number of other nurses at a time. Secondly, this was due to turnover. As large inner city ICUs, Riverview North and South experienced a high turnover, particularly of junior staff. As a result, nurses did

not have the time to develop close relationships given the large proportion of transient workforce. Thirdly, nurses at Riverview rotated between the two units, and also with other units located in an affiliated hospital. While the argument behind this strategy was to have flexible staffing and capitalise on the sharing of skills and expertise, this had an adverse effect on developing nurse familiarity and hence relationships with fellow colleagues; this is shown in the latter part of this chapter to hold implications for the way in which nurses accomplished their day-to-day work.

Apart from the managerial benefits of the team arrangement, there was no noticeable effect on the organisation and delivery of nursing work. The staff roster was not informed by the team structure, but rather by the required unit skill mix. Consequently, and more importantly, nurse-to-patient allocation did not reflect the combination of team members present. Instead, allocation was based on patient severity and nurse training needs. Despite concerns expressed over the lack of familiarity between nurses at Riverview ICUs, nurses did not overtly express a dislike of the way their work was organised nor did they appear to challenge the system. This is perhaps not surprising given that this system did not appear to have an actual effect on the daily organisation of their work. However, the difficulties this system created in developing greater levels of patient and nurse familiarity influenced the proactivity and confidence with which junior members of staff in particular were able to articulate and defend claims over ICU work in their interaction with ICU doctors, as will be seen in the next chapter.

Primary nursing: Cityview ICU

Nurses at Cityview ICU were also organised into teams of between six and eight nurses, each team headed by a senior nurse. Here, however, nursing work was organised following a system of primary nursing (Felton, 1975). Primary nursing, as exercised at Cityview ICU, allowed the identification of a nurse, who would be member of a primary nursing team, to follow up a particular ICU patient throughout their ICU care trajectory in order to enable continuity of care and develop intimate and in-depth knowledge of that patient's condition.

Unlike Riverview ICUs, the organisation of nurses into primary nursing teams had a clear effect on the organisation of work and patient care, particularly through the

process of nurse-to-patient allocation. On admission a patient was allocated to a primary nurse. When that nurse was on shift, they would look after that particular patient, and when they were not on shift other members of that primary nursing team would look after that patient but keep the primary nurse informed. In an informal discussion, Ruth, a sister at Cityview ICU, explained their nurse allocation process:

> *Ruth: 'It can be complicated. Initially we practise primary nursing, so every patient is allocated to a primary nurse who is responsible for the care, planning, relatives, documentation and overall progress of the patient. And the associate nurses from the same team support the primary nurse when they are on shift. Then it's a matter of matching patient severity with nurse skills and also allowing junior nurses to gain experience but with peer support.'*
> (Cityview ICU: 82)

Nurses at Cityview ICU, similarly with nurses at Riverview ICUs, did not appear to overtly challenge the primary nursing system as a focus for organising their work. On the contrary, they indicated that they welcomed this approach since it provided a clear jurisdictional area in terms of the patient allocated to each nurse, whose care they oversaw. In this way, the primary nursing system reinforced nurses' claim of having a fuller jurisdiction over the care of their primary patient while at the same time clarifying the internal jurisdictional boundaries between ICU nurses.

Abbott (1988) argued that in the workplace debates can arise over who can control and supervise which parts of the work, and disputes are found where professionals compete for control over a jurisdiction. With applying the primary nursing system at Cityview ICU, internal disputes between nurses were contained since jurisdiction for setting a patient's nursing care plan was exclusive to the primary nurse. While in the absence of the primary nurse other nurses could step in, any changes to the patient's nursing plan were communicated and discussed with the primary nurse who had final say. In contrast to earlier reports from general hospital wards (Allen, 1996; 2001), the internal tensions and boundary disputes theorised by Abbott were not found in the current study of ICU. This is likely a reflection of the highly controlled setting of the ICU and nursing work organisation processes in particular, such as primary nursing, which did not leave room for internal disputes or negotiations. In this sense, the

current study's findings add to Abbott's theorisation by revealing the reality of the day-to-day world of work at the microcosm of ICU practice, in which internal jurisdictions were found to be fixed rather in perpetual dispute.

The boundary of ICU nursing

While ICU nurses did not report and neither were there any obvious signs of intra-professional competition in the ICUs examined, nurses did appear to form a united front. A junior nurse at Riverview North ICU commented how the intra-professional relationship between ICU nurses was different from the inter-professional relationship with doctors:

> *In ICU you need all the support you can get! We have better understanding between us nurses because we do the same job. While it is different for doctors because they do a different job.*
> (Riverview North ICU: Valerie, band five nurse)

The above quote suggests that different kinds of ICU work undertaken by different professionals can serve on the one hand to establish boundaries between professions and, on the other, to foster in-group identity. The latter was the catalyst for intra-professional support and inter-professional disagreements. ICU nurses' group identity appeared to be particularly fostered through senior nurses who actively encouraged and supported junior nurses to be more assertive with consultants and junior doctors, defending their jurisdictional claims over patient care, which was particularly prominent at Cityview ICU.

A sister at Cityview ICU explained in her interview that an important aspect of her role was to support junior nurses in making such claims. For example, in discussing the role of the bedside nurse during the ICU ward round, she commented:

> *Certainly as a team leader, I would make a concerted effort to make sure that the nurse at the bedside is involved in the ward round, particularly if they're junior. Because they won't say anything, they'll stand back and it's a matter of turning to them and – the doctors, bless them, forget to ask the nursing opinion sometimes. So you have to just go to that nurse and say 'now what do you think, have you got any problems, have you got any questions to ask?', as*

opposed to taking over yourself.

(Cityview ICU: Judith, band seven nurse)

As the above quote indicates, junior nurses were supported by their senior colleagues to engage proactively with the consultants during the ward round and in this way have a greater input in the care of their allocated patient. In contrast to most general hospital wards, in which there can be 'degradation of work' (Abbott, 1988) and it is primarily the sister's role to liaise with the consultant concerning aspects of patient care (Allen, 2001), in the ICU each nurse was encouraged to gradually assume and share this responsibility with the nurse in charge. In this context, the intra-professional boundary between senior and junior nurses in ICU was found to be permeable.

Senior nurses highlighted the intricate and up-to-date knowledge of the patients' conditions that bedside nurses held, and argued that this legitimated their extended involvement with the ward round. For example, an ICU sister stated:

The nurse at the bedside I think must listen carefully to the ward round because there may be errors made. They know the patient, they know how they respond to medical input, for example just turning a patient side to side what happened to the patient, their neurological status, their feeding, they know all these things.

(Cityview ICU: Kathryn, band seven nurse)

Moreover, senior nurses appeared to encourage junior ICU nurses to be more involved with and claim a greater role in aspects of the medical management of the patient. As Judith, the sister at Cityview ICU, argued:

I see nurses as not only looking at the social and psychological care of the patient, because nurses always tend to do, and the pressure area care and what are the cultural- they are important but they're sort of softer than the medical side. But particularly intensive care nursing you are at the bedside all the time, you do have that knowledge and you can say, you have to say to the doctors 'that's wrong, what happens is this' if you turn the patient or you know are they confused aren't they confused, how does this affect their overall

welfare.. uhm and that's how I see it, they have to be able to say that.

(Cityview ICU: Judith, band seven nurse)

As the above quote suggests, senior nurses in the ICU appeared to use the intricate and up-to-date knowledge of the patient's condition held by bedside nurses in the ICU, because of the provision of one-to-one care, to encourage nurses to be more assertive in their interactions with doctors and claim a greater niche in the management of the patient. Although examples of senior nurses supporting and encouraging junior nurses to have a clear input in the management of their patients were encountered across units, the senior nurses at Cityview ICU were more vocal about this approach than their counterparts at Riverview ICUs. Although the precise reasons for this were not clear, this may have been the result of having a higher percentage of senior nurses at Cityview ICU.

In this context, senior ICU nurses encouraged greater permeability of nursing boundaries, supporting junior nurses to seize greater responsibility in the care of their patient. Senior nurses also appeared to engage in a kind of 'boundary work' (Gieryn, 1983; 1999; Allen, 2000). Allen's ethnographic study (2000) in a District General Hospital in the UK, which examined the attempts of nurse managers to set the boundaries of clinical nursing in the context of role realignment, found nurses to refer to 'holism' – tending to patients' psychosocial as well as physiological needs – to differentiate their approach to care from that of medicine. Contradictorily, in the current research in ICUs, senior nurses appeared to downplay 'holism' and emphasise instead bedside nurses' intricate and up-to-date knowledge of patients' physiological parameters. In doing this they appeared to claim a greater role for ICU nursing in the medical management of patients through encouraging and supporting their junior colleagues to challenge medical authority and input to patient treatment decision-making. This finding appears to resonate with Allen's (2001) finding where for general ward nurses 'knowing the patients' meant having an up-to-date knowledge of their progress and social circumstances, and was important in accomplishing a convincing professional performance. For ICU nurses in the current study, however, intimate knowledge appeared to be largely concerned with patients' physiological signs and in particular their reactions to their drugs and treatments rather than their social

circumstances. In this way senior nurses in ICU appeared to not only defend the boundaries of nursing work in the ICU but to even claim a greater contribution and input to medical decision-making.

However, by removing the emphasis from the social and psychological character of ICU nursing, nurses could be losing their grip on their unique contribution and jurisdiction to ICU patient care. This would reinforce Zussman's (1992) criticisms of ICU nurses becoming 'mini-interns'. Through his ethnographic work of two North American ICUs, Zussman argued that ICU nurses embraced the technical side of ICU care to the detriment of psychosocial aspects. In this way, he claimed, ICU nurses, like doctors, had become technicians. Zussman's criticisms were partly reflected in Carmel's (2006) British ethnography of ICU, in which he argued for ICU nurses being 'incorporated' by consultants into ICU medicine. Carmel found that the nurses he studied had departed from their traditional psychosocial concerns for patients and adopted a biomedical focus. Abbott (1988) argued that professions cannot hold an unlimited set of jurisdictions; as they seize control over new jurisdictions they relinquish control over others. In this sense, the nurses in the ICUs studied by Carmel and Zussman had lost their nursing jurisdiction and identity by seizing other more technical and medically orientated jurisdictions. However, both Carmel's and Zussman's conclusions appear extreme and not supported through the current study's findings. In the current research, as noted in Chapter Six, patients' psychosocial issues were identified to form part of the one-to-one nursing handover. Moreover, in their interactions with doctors and allied health professionals, ICU nurses also preserved and projected a strong concern for patient welfare and patient comfort in particular and in this way they did not adopt exclusively a biomedical focus. However, the extent to which the study's findings contrast Abbott's theorisation about professions only being able to hold a limited set of jurisdictions is unclear because Carmel and Zussman did not provide details about the jurisdictions held by the nurses they studied.

Summary

The intra-professional division of labour between ICU nurses in the current study appeared clear and well established. Senior nurses took on the managerial jurisdiction of the ICU while everyone else who was allocated a patient was effectively responsible

for doing all that was clinically necessary for their particular patient. There were no explicit disputes between nurses as to which tasks junior and senior nurses should undertake. Intra-professionally, nurses in the ICUs operated a supportive and mutually reinforcing system. Within this supportive system, nurses were encouraged to challenge medical authority and claim a role in medical decision-making particularly in relation to patient treatment. Through this, nurses in ICUs appeared to avoid intra-professional conflicts, but potentially fostered inter-professional competition (examined in Chapter Eight).

The findings examined here did not fully support Abbott's (1988) position about the internal division of labour and degradation of work. In the ICUs studied, a clear and uncomplicated set of jurisdictions contained the presence of the internal conflicts he theorised. This was argued as a reflection of the highly controlled setting of the ICU and organisation of nursing work, which did not leave room for internal disputes or negotiations. The study's findings add to Abbott's theorisation by revealing the internal division of labour at the microcosm of ICU nursing, in which internal jurisdictions were identified as fixed rather in perpetual dispute.

The supportive system in which ICU nurses worked was essential for the daily running of the unit, a large aspect of which concerned the prevention of patient- and staff-related emergencies, as the next section proceeds to examine.

Accomplishing ICU nursing in day-to-day practice

As the previous section highlighted, nurses in the ICU did not appear to overtly conflict over jurisdictional lines but instead emphasised how much they relied on each other for support, as expressed by one of the junior nurses at Riverview North ICU:

> *We are working closely, we are relieving each other for breaks, we help each other with turns, we are doing other bits for each other, helping each other out all the time and asking questions so there is a lot of interaction going on. [When] you have lots of things going on at the same time for example pumps running out, or the haemofiltration running, there will be people who come along and volunteer to draw up drugs for you, or change your filter for you or help you turn your patient, assist with chest x-rays and just make the day run*

smoothly really.

(Riverview North ICU: Louise, band five nurse)

As the above quote illustrates, in accomplishing their day-to-day work nurses in the ICUs studied were found to rely heavily on intra-professional interaction, which they perceived as enabling the smooth running of their shift. This was largely in response to the criticality of patients' conditions in ICU, requiring intensive monitoring and treatment, consequently leading to work pressure and high workload. One key aspect of accomplishing nursing work was maintaining a safe and stable ICU environment, which involved the prevention of patient- and staff-related-emergencies, such as a patient deteriorating or a nurse being unable to cope with the workload.

Abbott (1988) offered rich insights on the internal division but not on the coordination of labour in day-to-day practice like Strauss *et al.* (1964) and Allen (1997) did. Abbott argued that the division of labour, the claiming and settling of jurisdictions in particular, is accomplished in professional interaction through negotiation and custom. However, his work did not engage in detail with this aspect and did not provide illustrative examples of how this translates to the day-to-day world of work. While Strauss *et al.* emphasised negotiation as a key process, Allen argued that focusing on negotiation alone can be limiting and that the division of labour can be accomplished through a number of possible processes, one of which can be negotiation. In the current study, ICU nursing, as related to the prevention of emergencies, appeared to be accomplished through the tacit enactment of two interconnected processes that nurses referred to as the 'global view' and 'stepping in', which are the focus of examination in the following sections.

'Global view' and 'stepping in'

In response to the critical and work-intensive environment of ICU a system of mutual monitoring between ICU nurses appeared to be in operation, which nurses in the current study referred to as having a 'global view'. Both senior and junior nurses across units made reference to the global view although senior nurses spoke of it more explicitly. In essence, having a global view meant that ICU nurses would, in addition to their own workload and patient's condition, monitor the condition of

neighbouring patients as well as their colleagues' workload. Jacqueline, a sister at Riverview North ICU, explained:

> *[In ICU] you've got to be able to have a global view of what's going on around you; you can't just focus on the task in hand i.e. your patient.*
> (Riverview North ICU: Jacqueline, band seven nurse)

Despite ICU nurses being responsible for one-to-one nursing care, the above quote indicates ICU nurses also remained aware of wider pressures and nursing work at unit level. Although this process of having a global view was not explicitly recognised in the ICUs, it was a tacit rule that was understood among nurses. The global view was not an aspect of ICU nursing that required explicit negotiation but rather formed part of what Abbott (1988) described as a custom of professional practice. Having this awareness of other colleagues' patients and workload was necessary in order to provide timely intervention to support other nurses and prevent potential issues from escalating. Through this, the supportive structure examined earlier was reinforced and ICU work was accomplished seamlessly.

ICU nurses referred to the process of timely intervention to support colleagues in need as 'stepping in'. In particular, 'stepping in' involved nurses from neighbouring bed spaces confidently intervening in another nurse's bed space to undertake particular care tasks and provide appropriate support. This was especially relevant in situations when support was not originally asked for, as in the extract below:

> *While at the nurses' station I suddenly noticed increased activity around bed space two. I saw Elisabeth (band five nurse) – moving away from her bed space (one) towards bed space two and beginning to draw drugs from vials into syringes and placing them in a box on the patient's table. The nurse responsible for bed space two, Jenny (band five nurse), looked at the monitor and completed the patient chart with vital signs. Ruth (band seven nurse) also approached, drew blood from the patient and then went to do a blood gas analysis. She then returned and gave Jenny the results; Jenny: 'Thank you'.*
>
> *Later, Elisabeth approached the nurses' station and I took the opportunity to ask about what had happened.*

Elisabeth: 'Helping her out. The bed space was a mess, a lot of infusions were running slow. Some people need support.'

Andreas: 'How did you know she needed support?'

Elisabeth: 'Her bed space was a mess… well I had a look really.'

Andreas: 'She didn't ask for support?'

Elisabeth: 'No, I stepped in. Some people just keep to themselves. It's my job to help her, and her job to support me.'

(Cityview ICU: 26)

In the above extract, Elisabeth identified that her colleague Jenny was struggling to cope with the work and was in need of support although did not ask for it. By being aware of the unit routine and looking at Jenny's infusions, Elisabeth was able to identify that these were 'running slow'. Consequently, Elisabeth 'stepped in' to help; her choice of words to describe her action here ('*I stepped in'*) is significant in that the phrase (to step in) indicates intervening in a situation. In order to protect patient care, Elisabeth intervened in her colleague's bed space and jurisdiction, caring for her allocated patient. This example suggests some permeability of the clinical nursing boundary between nurses in the ICU and signifies the absence of explicit negotiation in accomplishing nursing work; thus contrasting Strauss *et al.* (1964) but supporting Allen (1997). This permeability was necessary in order to ensure patient safety, since without Elisabeth seizing the initiative and 'stepping in' to support Jenny patient care would likely have been compromised.

Although each bedside nurse held full jurisdiction over the nursing care needs of their particular patient, intervention from nearby nurses was not resisted. Data suggest that the intra-professional nursing boundaries were open to other nurses on shift. Stepping in was a process mainly used to support nurses who were facing difficulties, however, it was also encountered regardless of whether the bedside nurse believed they were in control of their patient's care needs or not. Roger, one of the junior nurses interviewed at Riverview South ICU, explained this aspect of the unit culture:

It's a very friendly unit and very helpful unit. People generally, in my experience, are always willing to help. Even if you don't want them to. There's

always people coming in and doing stuff, even if you can handle it.

(Riverview South ICU: Roger, band five nurse)

Roger's words in the above quote (*'even if you don't want them to'; 'even if you can handle it'*) suggest that such acts of intervention may have not always been welcomed. Although intervening in such instances may be argued as illegitimate, ICU nurses did not appear to overtly challenge such a move. In contrast, as Roger suggested (*'it's a very friendly and very helpful unit'*) this was generally perceived as a sign of being friendly and helpful and not an unwarranted intrusion or tacit criticism. Here, however, Roger may have been attempting to be respectful and not appear critical of his colleagues. Still, overt conflicts resulting from this practice of nurses intervening into each other's bed space were not witnessed in any of the ICUs studied.

Ultimately, quality of patient care was the reason nurses used to justify the permeability of the nursing boundary in ICU. For example, when asked about the way nurses worked in the ICU, a senior nurse at Riverview South ICU commented:

It's a close interaction, it's a mutually beneficial way of working where you are not just working for yourself and just totally self-focused. You are opening yourself to other people and their work, and it's a, you're working towards a common goal and it's very much a combined effort by everyone on the unit, working to a common goal. The goal being to provide the best nursing care that you can. You're working together to help everybody along to help the unit run smoothly to provide the best care for your patient and your colleagues' patients as well, as a whole.

(Riverview South ICU: Tim, band six nurse)

The global view and stepping in appeared to be tacit processes which nurses exercised as a means of ensuring ICU nursing on a day-to-day basis was accomplished seamlessly for each patient. This reflects an aspect of ICU nursing not generally examined in the ethnographic literature (e.g. Harvey, 1997; Coombs, 2004; Carmel 2006), although with one exception (Hak, 1999). In an ethnographic study of how doctors deliver diagnostic news to patients, using the ICU as a case study, Hak (1999) described the following unexpected finding from his research:

> When observing nurses' ongoing work I was struck by another phenomenon which I described in my fieldnotes as follows: A nurse who is engaged with a patient suddenly stops in the middle of some ongoing activity and goes to another bed and assists the nurse at that bed with the work on that patient. This is not remarkable in itself but it strikes me that this is done without any talk or other overt sign being exchanged between the two nurses, at least as far as I can see. There is no visible request for help and, after the other nurse has arrived, there is no visible exchange of information about what must be done. (p.434)

ICU nurses in the current research supported each other in the manner described by Hak and they considered this to be custom nursing work in ICUs. When asked, nurses reported that supporting each other in such a way was something they 'just did'. Because this aspect of ICU nursing was not remarkable to nurses, it went largely unnoticed by them. It is therefore not surprising that this fine-tuning of ICU nurses' work, which relies on mutual support and could have far-reaching implications for the delivery of safe care, appears to not be formally recognised or acknowledged in nurse training or included in ICU nursing textbooks (e.g. Adam and Osborne, 2005). The current research therefore provides insights into the tacit coordination of ICU nursing work hitherto overlooked in the ICU literature. In particular, ICU nurses demonstrated a keen sensitivity to their colleagues' actions and behaviours, maintained an awareness of the conditions of nearby patients and actively stepped into situations to provide support to colleagues in need.

The current study's findings also lend weight to reports from workplace studies in critical environments outside healthcare that discussed the ways in which personnel can demonstrate an ongoing sensitivity to the actions of colleagues and how this sensitivity provides a resource with which to organise and coordinate their own actions (Heath and Luff, 1992; Hindmarsh and Pilnick, 2002). Heath and Luff's (1992) study of London Underground control room staff, for example, showed how staff surreptitiously monitored the work of their colleagues. This practice is essential, they argued, since within critical work environments it is not possible for co-workers to abandon tasks in which they are engaged in order to inform others of what they are doing and why. Therefore, while engaging in seemingly individual tasks, they were simultaneously attentive to colleagues' actions and could 'respond' to critical developments or actions accordingly. The current research confirms that in ICUs,

similar to underground control rooms, developing a global view by overhearing and overseeing the actions of others is perceived as expected behaviour among nurses.

Abbott's (1988) and Strauss *et al.*'s (1964) attention to negotiation as a key process was not identified through the findings examined here regarding the coordination between nurses towards accomplishing ICU work. In contrast, ICU nurses held a global view of each other's work, stepped in to situations and crossed their colleagues jurisdictional boundaries without any signs of negotiation. These findings lend weight to Abbott's theorisation about professionals using custom to accomplish the organisation of their work, and support Allen's (1997) argument that in day-to-day practice nursing work can be accomplished even in the absence of face-to-face negotiation. This does not demonstrate that negotiation did not have a place in ICU but rather that intra-professionally negotiation was not a routine feature of nurse-nurse interaction.

In the context of ICU nurses and their work environment, four particular elements were found to act as conditions for the two processes of 'global view' and 'stepping in'. These were: nurse experience; nurse-nurse intimate acquaintance; the ICU layout; and monitoring technology.

Nurse experience

The first element influencing the exercise of the two processes of 'global view' and 'stepping in' was nurse experience. In particular, nurses in ICU reported that the ability to maintain a global view of the unit was not innate in all nurses, especially junior nurses. Judith, a sister at Cityview ICU, reported:

> *It depends on seniority; the more junior you are you tend to stay in your bed space because that's what you're worried about. But as you get more senior you are much more aware of what's going on around you and you can see that development in staff. They'll start to offer to help you, if they can see you are busy; they will see that you are busy and they'll say is there anything I can do for you?*
>
> (Cityview ICU: Judith, band seven nurse)

In the above quote, nurse seniority was indicated to be a factor affecting the development of a 'global view' and nurses' ability to 'step in'. However, in this context seniority was less about an individual nurse's position in the nursing hierarchy (i.e. nurse bands) but rather about their prior ICU experience. This was backed up by a junior nurse at Riverview South ICU, who admitted during an interview:

> *It is difficult when you are new. When you are new you tend to focus on your own patient, while if you are more experienced you tend to have a more global approach.*
>
> (Riverview South ICU: Roger, band five nurse)

Junior nurses, therefore, required experience in and exposure to ICU before being able to develop the process of global view. As the above quote suggests, this was likely because they needed to build their confidence and feel in control of their own bed space before moving to offer help in another nurse's bed space. In contrast, for experienced nurses, intervening in a junior nurse's bed space and jurisdiction was expected behaviour, which they justified as 'supporting' the junior nurse and ensuring safety was not compromised. This finding is supported by earlier reports by Heath and Luff (1992:78) who noted that in the context of the London Underground, 'learning to perform complex individual tasks, whilst simultaneously participating in, and overseeing, the activities of colleagues, proves particularly difficult for the uninitiated'. Junior nurses, as uninitiated and lacking experience in ICU work, were less familiar with the typical course of actions in which their colleagues engaged and lacked confidence to leave their own bed space and allocated patient.

Nurse-nurse intimate acquaintance

The processes of 'global view' and 'stepping in' also appeared to be facilitated by nurses developing intimate acquaintance with and awareness of different colleagues' subtle behavioural signs of distress. In particular, observations from the current study showed that this involved nurses continuously both looking and listening for early signs of emergency, such as colleagues behaving in ways that indicated they were stressed, anxious or concerned. The following extract from the field notes at Cityview ICU presents such an example:

Sat to chat with Tracy (band five nurse) by the nurses' station while she logged information on a patient's notes. Suddenly Tracy sat upright, remained still for a moment, turned towards Nicky (band five nurse) at bed space three, stood up, walked towards Nicky, put on an apron and gloves, and started dealing with the I.V. lines while Nicky dealt with the haemofiltration machine. They then turned the patient to one side and Tracy took off her apron and gloves and sat back at the nurses' station to continue with the notes.

Andreas: 'How did you know she needed help?'

Tracy: 'Ehm, I just did. She (Nicky) sounded like she was having difficulties and when I looked at her I knew she could use a hand'.

(Cityview ICU: 91)

As the above extract reveals, nurses themselves were not actively aware of the sensitivity they demonstrated to their colleagues' reactions. The process of global view, and monitoring colleagues in particular, is therefore reinforced here as tacit and custom practice. Speaking casually with Tracy she exhibited no obvious signs of actively monitoring other nurses. Her action in intervening and providing support to her colleague, without being asked to do so, suggested that the process of global view was active although not obvious to those around her. Tracy's own response to the question about how she had identified her colleague was in need of support was particularly illuminating. Hearing and sight were suggested to be two pivotal senses in enabling a global view. Tracy, in the above example, reported listening to her colleague and identifying that she was in distress. Subsequently this was confirmed visually and so support was appropriately offered. In the above extract, Tracy did not appear to be actively aware of this process since by her own admission (*I just did)* shows that this was internalised in her practice.

ICU nurses explained how through time and experience they got to know their colleagues and how to interpret their behaviour. In this way, they were able to identify when a potential emergency arose, for instance with colleagues exhibiting signs of stress or anxiety. As Tracy, the junior nurse from the above incident, explained in her interview:

There are certain things that somehow you learn [about your colleagues] or you can hear because you know your team, the people that you are working with, and how if they need help urgently… and that's just learning from experience.

(Cityview ICU: Tracy, band five nurse)

In the above quote it was suggested that through experience of working with each other, nurses in ICU developed a level of understanding and acquaintance of their colleagues, which facilitated the development of the global view through enabling them to 'know the team'. However, this implied that the 'team' was known and was consistent. At Cityview ICU, as a rather small unit, this level of familiarity between nurses could be achieved more easily, while at Riverview North and South ICUs, as larger-sized units, this was more difficult to develop; Riverview North and South ICUs employed three times more nurses than did Cityview ICU. The larger size of the nursing workforce at Riverview ICUs therefore appeared to hinder the development of intimate acquaintance between nurses, limit nurses' ability to 'know the team' and consequently hinder the development of the global view.

Developing intimate acquaintance appeared to enable nurses to accurately and appropriately identify and interpret their colleagues' subtle behavioural cues in order to justify an intervention into another nurse's jurisdictional space. Lacking intimate acquaintance therefore risked an inappropriate intervention or a required intervention not being made.

ICU layout

The layout of the ICU was identified to be the third influencing factor to the processes of 'global view' and 'stepping in'. This was mainly achieved through maintaining clear visual lines across the ICU and between the ICU professionals. As shown in Chapter Six, the three ICUs observed each had different layouts that were found to influence the process of global view in different ways.

Cityview ICU was purpose-built and followed a crescent (U) shape (Figure 5, page 134) where the ICU beds were positioned along the periphery with the nurses' station in the centre of the unit. Regardless of where staff were positioned, it was possible both

to watch the entire unit and to be watched by all those around. This was because, other than the standard hospital bed curtains, there were no physical structures such as wall partitions to block vision from one side of the unit to the other. Consequently, each bedside nurse's work was visible to other nurses on shift, which enabled them to identify when a colleague may be falling behind schedule and initiate appropriate intervention.

Visibility at Cityview ICU, facilitated by the open layout, allowed staff to maintain visual awareness of each other which contributed to the development of global view. Visual awareness enabled ICU professionals to provide and receive support to and from other nurses who frequently turned to assist each other in their work. The following quote from an interview with Damian, a charge nurse with experience of working in different ICUs, illustrates this point:

> *[In an open-plan ICU] you can instantly see everybody; you can see what's happening everywhere. [So] without being prompted there's, if you do an admission on one end the people on the other end will automatically come up and will help.*
> (Riverview North ICU: Damian, band seven nurse)

Because ICU nurses' work was undertaken in full view of everyone, support could be offered without being explicitly requested. At Cityview ICU, professionals regularly turned to look at their colleagues and instantly appeared to make the decision to approach them (step in) and assist with whatever they were doing; as this excerpt from the fieldnotes demonstrates:

> *Doreen (band six nurse), who was apparently following up from the discussions in the ward round, tried to help the patient in bed four to sit up in the bed. I had only just begun to wonder how she would cope when I noticed Augusta (band six nurse) from bed six holding still and looking towards Doreen. She then took off her apron and gloves, used alcohol gel, turned to look at her patient for a moment, and then moved hastily over to bed four. Augusta together with Doreen managed to lift the patient to sit up on the bed.*
> (Cityview ICU: 112)

Simply arguing for the importance of ICU nurses exercising the processes of 'global view' and 'stepping in' to intervene if needed without adequate consideration of the context within which this behaviour was performed would therefore be insufficient. The context within which ICU nurses operated and the layout of the unit in particular was found to be instrumental in facilitating or hindering the expression of such behaviour. This becomes clearer when contrasting the open layout of Cityview ICU with Riverview North ICU.

The layout of Riverview North ICU was characterised by an 'H' shape (Figure 3, page 132). Within this overall shape, the unit was further subdivided into smaller sections consisting on average of two adjacent ICU beds. Walls and partitions blocked visual lines allowing only a small section of the unit to be observed at any one time. Damian's response when he was asked to comment on the difference between an open-plan unit and Riverview North ICU illustrates this point:

> *Here (Riverview North ICU), because you can't see the other side (of the unit) people tend to be in their little units, so that one side will not know what's happening in the other end. So there tends not to be a sort of wandering around and helping out unless they are asked.*
> (Riverview North ICU: Damian, band seven nurse)

As the above quote suggests, lacking clear visual lines hindered ICU nurses from developing a global view of the unit, identifying whether colleagues were in need and intervening in a timely manner to provide support. Being secluded in *'their little units'*, nurses at Riverview North ICU were unable to identify and appropriately interpret their colleagues' behaviour needed to initiate and legitimate an intervention into another nurse's space.

The layout was only one aspect of the ICU space found to affect the processes of 'global view' and 'stepping in'. In addition to layout, the size of the unit itself was found to limit or foster nurses' ability to develop a good overview of the unit and a supportive environment. In particular, at Riverview South ICU, the largest in size of the two units at Riverview, nurses often discussed that due to its size it was difficult to follow developments across the entirety of the unit during their shift. Therefore they tended to focus on the one patient they were allocated and failed to develop an

overall sense of the unit. On the contrary, in the smaller Riverview North ICU, nurses described a better sense of overall awareness because of the closer proximity to each other despite not having a full view of all nurses. In this context, proximity served to overcome the restrictions of the space and facilitate interaction, communication and intimate acquaintance between nurses.

Being in close proximity to colleagues reportedly encouraged collegiality and facilitated the development of a safe and trusting environment. Roger, a junior nurse who experienced working in both units at Riverview, made the following observation:

> *[Riverview North ICU] is cosier. You work closer to your colleagues and it's more social. Also, because you are closer to people and you can see everybody quite close around you it feels more friendly and supportive.*
> (Riverview South ICU: Roger, band five nurse)

ICU nurses remarked that in a smaller space it was relatively effortless to turn to a nearby colleague to ask a question, ask for support or discuss a patient. During an informal conversation, Diane, a junior nurse at Riverview North ICU, explained why she preferred to work there:

> *Andreas: How do you think the two ICUs here [at Riverview] compare?*
> *Diane (band five nurse): [in Riverview North] you work closer with the other nurses... it is much easier to ask someone (for help) who is already there without having to leave your bed space (to go look for them).*
> (Riverview North ICU: 43)

Nurses found it particularly valuable that in the smaller unit such interaction could take place without distancing themselves from their bed space and thus the patient under their care. This was because for ICU nurses leaving the area of the bed space was problematic since patients required constant and close monitoring, which meant they should not be left unattended. As noted in Chapter Six, when nurses commenced their shift an allocation process took place whereby each nurse was allocated to a particular bed space to provide care for an ICU patient. A nurse would then spend the duration of their shift at that particular patient's bedside, and by extension within the perimeter of the particular bed space. Therefore, nurses' movements were essentially

confined, restricted to that particular section of the unit in which they were stationed. Of course, nurses could move to adjacent bed spaces to help colleagues out, move away to have a break, or move across the unit to seek a particular drug that may be stored in a central facility; however, even when nurses did move away from their bed space this was for a limited time only and then they would always return promptly. This restriction in movement for nursing staff made the process of seeking and providing support from and to other colleagues challenging, as the following excerpt from the field notes reveals:

> *I noticed Jane (band five nurse), stationed at the far end of the unit 'peeking' my way – walking away from her bed space and back. Then walking even further away from her bed space and back, while lifting herself up to the tip of her toes, extending her neck and looking around from left to right. As she noticed me observing her I smile and nod to indicate if I could help her with something.*
> *Jane: 'Have you seen Jim around, I am meant to have a chat with him?'*
> *I raise my shoulders saying that I have not, but walk towards the other side of the unit to find him, leaving Jane to return back to her bed space.*
> (Riverview North ICU: 55)

Confinement to a particular area of the unit thus raised challenges for nurses as it limited their potential to engage with and step in to support other nurses, while hindering the development of the global view.

Research on how the ICU space affects health professional work is limited, although with one exception (Ball and McElligot, 2003). In a study of ten ICUs in the UK, 231 nurses were interviewed during 33 observation sessions in which the layout of the ICU was identified as considerably limiting the work of the ICU nurses by limiting visibility (Ball and McElligot, 2003). As the majority of ICUs in England are not custom-built, few allow visibility from a central area in the ICU, which is an essential requirement for intensive care nurses to monitor effectively the ICU patients (MH, 1962; ICS, 1997). The current study supports and extends Ball and McElligot's arguments by identifying that the ICU layout also has the potential to hinder the expression of nurse-nurse supportive practices and potentially risk the safety of the unit.

While the layout at Riverview ICUs in particular limited the process of global view, in contrast, the monitoring technology used in ICU served to facilitate the process of global view, which is examined next.

Monitoring technology

The process of global view and the monitoring of nearby patients in particular was extended through the use of technology. Specifically, by using the monitoring technology available at each bedside ICU nurses could quickly gain an overview of any particular patient's condition by paying attention to monitors, ventilators or other equipment, looking for abnormal patient vital signs and listening to alarms. When asked in her interview how she could identify when an emergency might arise, Tina, a sister, explained:

> *Because there are monitors there, without checking each line of drugs, by looking at the monitor you can instantly tell what is really happening quickly. So initial signs of respiratory distress or peri-arrest you can actually pick up from the monitor.*
>
> (Riverview South ICU: Tina, band seven nurse)

Tina's response revealed that nurses in the ICU could monitor patients' conditions and progress, and pre-empt potential emergencies, by looking for initial signs of abnormalities on the relevant monitors. Here, a difference in the monitoring processes of senior and junior nurses is suggested. While junior nurse Tracy was previously seen to look towards her colleagues to identify signs of an upcoming emergency, senior nurse Tina spoke about using the monitors to identify these. A likely explanation for this difference might be that, as examined earlier in the chapter, junior staff worked more closely with individual patients and other colleagues therefore developing high levels of familiarity. These high levels of familiarity in turn allowed them to be more aware of subtle signs which their colleagues might exhibit and interpret in identifying abnormality or distress quickly. In contrast, Tina was a senior ICU nurse who mostly took on the role of nurse in charge; her role mainly involved overseeing the work of the ICU and that of junior colleagues. Being less intimately involved with junior professionals and their patients, development of the same levels of familiarity was likely hindered. Consequently, it would have been more

challenging for Tina to identify her colleagues' subtle signs of distress and so turned to using the monitors that provided clear and objective readings of physiological measurements which could be interpreted within specific variables. In addition, senior experienced ICU nurses were likely to be more confident in interpreting physiological measurements than junior staff. In this context, junior staff, lacking confidence or experience in interpreting such measurements, may have resulted in them relying more on their colleagues for support rather than on the monitoring technology.

While previous research identified that the effects of monitoring technology on ICU work were temporary and transient (Alasad, 2002; Wilkstrom and Larson, 2004; Morrison *et al.*, 2008) here, technology is revealed as used differently from junior and senior staff and to serve in extending the process of the global view. Moreover, the current study findings indicate that monitoring technology acts to complement and support senior staff in the absence of intimate acquaintance, but to be less significant when nurses have high levels of familiarity between them.

Summary

The processes of 'global view' and 'stepping in' can be summarised as a behaviour expressed by nurses who demonstrate an acute awareness of their surrounding environment by utilising their senses of sight and hearing, enabled through 'tuning' in to the subtle behavioural cues of their colleagues. Nurse experience, familiarity, the ICU layout and monitoring technology were found to facilitate or hinder the development of these processes. The process of global view served as a way of identifying early signs of an upcoming emergency, either in terms of acute patient deterioration or nurses struggling to cope with their workload. This enabled legitimate intervention into a nurse's space from other nurses on shift through the process of 'stepping in'. As a result, appropriate measures could be taken to respond to these signs before they escalated into actual problems thus preserving quality of care, patient safety and a sense of stability within the ICU.

By following Strauss *et al.* (1964) and shifting the analytical attention to the interaction order of day-to-day practice, the findings examined here reveal a hidden dimension in accomplishing ICU nursing. While a macro view suggested that the intra-

professional nursing division of labour in ICU was maintained mainly through a clear work organisation and uncomplicated set of jurisdictions, a view of the microcosm of ICU practice revealed that this was supported by a mutually reinforcing mechanism exercised by nurses as custom practice. Abbott (1988), while acknowledging the role of negotiation and custom, did not engage theoretically with the everyday world of work. The findings examined here add another dimension to Abbott's theory by revealing the intricacies and textured character of the intra-professional division of labour in day-to-day ICU practice. The critical nature of work and organisational practices of the ICU left little room for face-to-face negotiations. By following Allen (1997) and not limiting the analysis to negotiations, the two processes of the global view and stepping in were identified as key to accomplishing safe nursing practice in ICU, which have practical implications for ICU nurses.

Conclusion

This chapter set out to examine how nurses accomplished the organisation and delivery of their work in the ICU and the extent to which this was characterised by intra-professional disputes. Findings presented here indicate that ICU care was accomplished through a supportive system characterised by mutual support and a shared sense of protection and concern for other nurses. The clinical boundary between ICU nurses was found to be permeable. The extended professional scope of ICU nurses, having complete jurisdiction over the nursing care of their allocated patient, in combination with the criticality of patient conditions and intensity of the work environment, required a flexible approach to nursing work where overt disputes were overcome in favour of a mutually supportive system. Intra-professionally, ICU nurses indicated a strong sense of professional allegiance, actively encouraged by the senior nurses. In accomplishing their day-to-day work within the intensive care setting, nurses were found to exercise two key processes referred to as the global view and stepping in. These were found to be influenced by nurses' experience and familiarity, as well as by features of the ICU environment.

The organisation of nursing work in ICU, as examined here, was not characterised by the kind of tensions identified by Allen (1996; 2001) through interviews with general

surgical and medical ward nurses. Developing an intimate knowledge of patients was hampered among the surgical nurses Allen studied because of task degradation, while medical nurses found the number of patients they cared for and information they had to retain overwhelming. While ICU nurses were encouraged to take on full jurisdiction of their patient's care and gain an intricate knowledge of their patient's condition, this was not accompanied by reports of anxiety or stress since there were high levels of intra-professional agreement and support. Provision of one-to-one nursing in the ICU would likely be another reason for nurses in the current study appearing more able than their general ward colleagues to develop high levels of up-to-date and intricate knowledge about their patient's condition. The findings presented in this chapter therefore support the conclusion reached by Coombs (2004) about the lack of intra-professional conflict among ICU nurses and endorse Melia's (2001) description of ICU nurses as a tight-knit team. The reasons for this have been suggested here to be the lack of work degradation, sharing of clinical jurisdictions, senior nurse support and the critical and intense nature of ICU work which led to nurses relying on each other for support. The findings presented here draw and extend the reach of Abbott's (1988) theory, revealing how clarity of jurisdiction contained internal disputes and meant that it was unnecessary for nurses to mount internal jurisdictional claims.

Nurses in the ICUs did not work in isolation but with a range of other health professionals, most notably doctors. The extent to which the findings of the current chapter apply to the inter-professional arena, between nurses and doctors, is the subject of examination next.

Chapter Eight: The Division of Labour between Doctors and Nurses in ICU

The previous chapter examined nurses' organisation and delivery of work as the largest health professional group in ICU. Nurses were found to deliver their work within a supportive structure, in which intra-professional boundaries appeared to be permeable. Nursing work was accomplished through interaction, relying on and drawing from each other for support, facilitated by the development of nurse acquaintance, patient knowledge and appropriate interpretation of colleagues' subtle behavioural cues. However, ICU nurses did not provide care for patients in isolation, but rather in close collaboration with other health professionals and particularly with ICU consultants and junior doctors. It is within this wider system of different professionals that the delivery of patient care was achieved in the ICU. To enable a fuller appreciation of this intricate system of work an examination of the professional boundary between these key professionals is required (Hughes, 1971; Abbott, 1988). Therefore, by drawing from Abbott (1988) this chapter aims to examine the processes through which ICU work was accomplished inter-professionally through analysis of the professional boundary between doctors and nurses. An overview of the existing literature on the nurse-doctor boundary in ICU is presented below to contextualise the analysis.

The review of the literature in Chapter Four revealed that current knowledge concerning the division of labour in healthcare is largely limited to investigations in traditional community or general hospital settings. In-depth examination in specialist areas such as intensive care is, with some notable exceptions, scarce (e.g. Coombs, 2004; Carmel, 2006). Carmel (2006), through an ethnographic study of three British ICUs, argued that the distinctive work features of the ICU reified doctors and nurses as an organisational team, distinct from other hospital areas. Carmel identified doctors and nurses as building a professional allegiance against the rest of the hospital embracing a common biomedical approach to ICU work. This suggests, argued Carmel, that nurses in ICU have been incorporated by consultants into ICU medicine. In contrast, Coombs' (2004) ethnography of ICUs found evidence of medicine being

domineering and excluding ICU nurses from clinical decision-making. In that study, nurses reported that their attempts to provide input to patient care decisions were resisted and ultimately rejected by consultants. This led to overt conflict arising between nursing and medicine in ICU. However, both studies appeared to largely focus on interactions between doctors and nurses on the ICU ward round, with little analysis of the interactional dynamics involved in their day-to-day work. Consequently, the intricate division of labour between doctors and nurses in ICUs, and the way in which this is managed, either through incorporation or domination, remains little understood.

Findings in this chapter are presented in three sections. Initially, the perceived and expressed role of professionals in the ICU division of labour is examined drawing mainly from their own accounts about their work. Secondly, professionals' contribution in day-to-day ICU work is examined by analysing typical examples noted in the fieldnotes, mainly covering interactions among professionals about aspects of patient care and treatment options. Lastly, health professionals' work under conditions of urgency is examined, such as sudden patient deterioration. This distinction serves an analytical purpose rather than an actual representation of daily practice, and it is important in order to develop a comprehensive understanding of ICU work at different levels of work intensity.

The inter-professional organisation of ICU work

In this first section, data derived from interviews, conversations with staff and observations are examined with a focus on ICU professionals' work roles and responsibilities. The focus in this section is on those roles and responsibilities that professionals articulated as constituting their day-to-day work, which is important in two key ways. Firstly, this is necessary because generic medical and nursing legislation (Medical Act, 1983; Nurses, Midwives and Health Visitors Act 1997), and job descriptions of ICU staff (Appendix 9), were found to be unhelpful and rather vague in terms of the actual work these professionals were responsible for carrying out in day-to-day practice. For example, while in job descriptions the content of professionals' work role in the ICU was described to an extent, the associated work tasks involved

were not explicit. This is because the minute-by-minute work activities of ICU clinicians are too many to be enumerated in such documents. However, this inevitably introduces an element of vagueness into professionals' work jurisdictions in the ICU, which is open to interpretation and inevitably requires resolution in the course of their work. Secondly, this is necessary in order to move away from a preoccupation with job descriptions, in which formal work jurisdiction and boundaries can be set, to examining the day-to-day workings of ICU professionals and how work jurisdictions and boundaries are translated into actual working practice. Abbott (1988:65) argued that 'the organisational division of labour may be formalised in job descriptions that recognise professional boundaries, but these have a rather vague relation to reality. In most professional work settings, actual divisions of labour are established, through negotiation and custom, that embody situation-specific rules of professional jurisdiction.' Analysis of the extent to which professional boundaries appear to be fixed or contested by ICU professionals will enable an assessment of the interactionist position and Abbott's (1988) thesis in particular, in which he maintains that work jurisdictions require settling through interaction in day-to-day practice.

Data presented next are drawn from across the three ICUs studied, with any differences between the units highlighted. The position of doctors, both consultants and junior doctors, in the ICU division of labour is examined first followed by that of nurses.

Doctors' role and care priority

The ICU consultants and junior doctors – SHOs and SpRs – constituted the medical professionals in intensive care. The two roles, consultant and junior doctor, differed in two main ways. Firstly, the consultant was at the top of the medical hierarchy and held authority and superiority of knowledge over the junior doctors. Secondly, the junior doctors had a passing presence and transient status in the ICU, typically on a three- to six-month rotation. These two key differences shaped their positions in the ICU division of labour.

Medical consultants

The intensive care medical consultants held overall clinical authority in the ICU with regard to patient care. Medical consultants were primarily responsible for the diagnosis of patients' conditions, deciding and planning appropriate interventions, and prescribing pharmacological treatment. Concurrently and inevitably, by setting the patients' plan of action, the medical consultants also set the parameters of work for all the other health professionals in the ICU. Thus, consultants not only exerted control over patient care, but also over the work of nurses and allied health professionals. To illustrate this point, when a junior nurse at Cityview ICU was asked to comment about how she planned her daily work, she responded:

> *It's important to know the medical plan of the day and where we are going. So your nursing plan is based around that grand plan and you have to adapt to what's going on.*
> (Cityview ICU: Patricia, band five nurse)

As the above extract demonstrates, ICU nurses acknowledged that their work depended to a large extent on the medical consultant's plan for the patient; Patricia's choice of words here (*'grand plan'*) signifies the primacy of the medical plan over the nursing plan for ICU patients. In this context, through their role as ultimate decision-makers, medical consultants held jurisdiction over ICU patients' treatment plans, and consequently over intensive care work. This subsequently served to reinforce consultants' powerful position in the division of labour, which also enabled them to claim overall leadership of the ICU, as a medical consultant at Cityview ICU highlighted in response to an interview question:

> *Andreas: What does your role here involve?*
> *Mark: I am basically a consultant covering the intensive care unit and when I'm on, I'm basically in charge of the ICU.*
> (Cityview ICU: Mark, medical consultant)

The medical consultants' position as one of being *'in charge of the ICU*' was reaffirmed through their authority over which patients would be cared for in the ICU. This was because the consultants in ICUs had the final say on all unit admissions and discharges. The authority of medical consultants over admissions is significant, since

unlike other hospital areas, medical consultants in ICUs remained impervious to hospital bed managers in the sense that they did not negotiate bed management the same way as other consultants in the hospital (Carmel, 2006). This was because a patient could only be admitted to the ICU if medical consultants had reasonable evidence to suggest that the patient stood to gain from intensive care. This is another indication of the powerful position of medical consultants in the ICU, not just compared to other ICU professionals, but also to other hospital doctors.

For the medical consultants, patient stabilisation – independence from life support machinery, such as the ventilator – and discharge back to the hospital ward appeared to be a high priority. This was likely because the performance of the ICU is largely assessed in terms of patient survival and average length of stay (ICNARC, 2003; Hutchinson *et al.*, 2011). With respect to achieving this priority, medical care in an ICU is typically characterised by intense, aggressive and innovative treatment options (Zussman, 1992). In the current study, consultants frequently referred to ICU patients as needing to move forward, while referring to patients with longer stays in the units as 'permanent residents'. Characteristically, a medical consultant at Riverview South ICU stated:

> *What these patients really need, is to not be here.*
> (Riverview South ICU: 3)

Despite being prominent figures in the ICU, medical consultants actually only spent a small amount of their time in the units studied. When they were in the ICU, this was mainly to lead the ward round. Indeed, once the ward round was complete, and patient treatment plans revised, it was up to the junior doctors to follow what was agreed and feed back any changes to the consultant.

Following the end of a ward round at Riverview South ICU, a medical consultant tried to explain the plan for the rest of the day and stated the following:

> *Well, now we've worked out jobs. They (junior doctors) go about doing those and if they need me they will call me. And I disappear.*
> (Riverview South ICU: 68.1)

When asked, consultants across units were not forthcoming about the activities they engaged with while they were away from the unit. For example, the following exchange occurred with a consultant at Cityview ICU:

> *At the nurses' station the consultant turned to me and said:*
> *Alan: Right, they (junior doctors) know what to do now so I am off.*
> *Andreas: What do you do when you are off the unit?*
> *Alan: Just trying to fill in time (stated with ironic tone). There are always chores to do and the administrative issues never end. So tomorrow I have a full list.*
> (Cityview ICU: 96.2)

As the above extract illustrates, ICU consultants typically used vague language when talking about the work they did off the unit. Because of their higher position in the ICU, consultants had free rein over their time and how this was spent. Unlike nurses, for example, ICU consultants were not required to either remain at the unit for a specific amount of time or justify to other professionals in the ICU how their time off the unit was spent. Indeed, when asked, junior doctors and nurses across the units were not able to provide a clear answer regarding this aspect of consultants' work. This further reinforced the higher standing of the consultants over other ICU professionals.

Junior doctors

A substantial amount of the 'hands-on' medical care in the ICUs was delivered by junior doctors. Junior doctors were transient in the ICU, typically in rotations of three or six months, and appeared to be mainly concerned with implementing the consultants' medical plan, reporting to the consultants on changes to patients' conditions, and completing relevant paper work such as patient notes. While there were two kinds of junior doctors present in the ICUs – SpRs and SHOs – the distinction was not always obvious.

The SpRs were more experienced and acted as a support mechanism for any unsolved queries for the SHOs. They were also the intermediaries between the SHO and the consultants. The SpRs did more interventional work than SHOs, such as performing tracheostomies, but otherwise their work did not appear to be dissimilar. The

distinction between the grades of junior doctors – SpR and SHO – was less discernible during everyday work. The junior doctors typically tended to allocate work among themselves following the ward round and then worked together throughout their shifts.

Junior doctors' jobs in the ICUs included completing discharge papers, adding or removing prescriptions, taking bloods and inserting or changing intravenous cannulas. These jobs were typically decided and issued by the ICU consultant at the ward round. For example, following the assessment of a patient in Riverview North ICU, the consultant turned towards the junior doctors and said:

> *Christian: Right, so jobs wise, he needs a new cannula.*
> (Riverview North ICU: 81)

Following the ward round, the junior doctors would congregate around the nurses' station, look at the jobs that needed doing and divide these among themselves. Junior doctors did not follow the same patients every day, nor were they allocated particular patients to follow for their shift. During a field visit to Cityview ICU, the following entry was made:

> *After the ward round the junior doctors came together around the main computer at the nurses' station.*
> *Gina (SpR): "Right, let's see what we have to do."*
> *They discussed the patients and what jobs needed doing. They divided these amongst themselves and all went for a coffee break.*
> (Cityview ICU: 10)

Paperwork made up a large part of the junior doctors' role in the ICU, as in other hospital areas. This included writing up patients' notes, admission and discharge forms, and patients' prescriptions. Junior doctors often complained about the inefficiency of medical notes and hospital paperwork. Even in Riverview North and South ICUs, which operated an electronic system, the junior doctors were frequently frustrated because this system did not extend outside the ICU. Therefore, patients' past history, medical notes and admission and discharge documents remained in paper form. In an informal discussion, a junior doctor at Riverview South ICU stated:

Tom: There is so much time wasted going through notes looking for information... and everything we do on the computer translates into paper anyway, so it doesn't help.

(Riverview South ICU: 37)

During the fieldwork, junior doctors were often noted to undertake such paper or administrative work. In Cityview ICU, for example, the junior doctors were required every morning to review the patients' blood test results and type these into the electronic medical notes. Below is an extract from the fieldnotes when this practice was first observed:

The two junior doctors (Luke, an SpR, and Susan, an SHO) sat in front of the main computer at the nurses' station. Luke read the patients' blood test results out loud, and Susan typed these into the medical notes.

(Cityview ICU: 104)

Although this practice was mainly an administrative task, the ICU lead medical consultant commented that this practice taught junior doctors to observe the daily changes in patients' blood test results, which, he argued, could give vital clues to patient progress or deterioration. When junior doctors themselves were asked about this practice they gave the same rationale, that it helped them to spot 'trends'. Despite the valid rationale, this example indicates the relatively low status and autonomy of junior doctors in the ICUs. They were generally perceived as learners requiring oversight and training. This task was assumed by the consultants who used the ward round as an opportunity to teach and quiz junior doctors. Although Riverview and Cityview were both teaching hospitals, this practice of quizzing junior doctors during the ward round was most intense at Cityview ICU; however, the reason behind this was unclear and was likely a reflection of particular consultants' teaching styles. The following extract represents such an exchange between a medical consultant (Mark) and a junior doctor (Angela) at Cityview ICU:

Mark: What is this patient's main issue this morning?

Angela: Well, I haven't had a chance to examine him personally this morning but… (interrupted)

Mark: What did you want to examine?

Angela: Uhm, his blood results came out this morning and they weren't very positive so I thought… (interrupted)

Mark: Where are his results?

Angela: In his notes… (Angela pointed at the patient's file, but was again interrupted)

Mark: Show me! (Angela locates the results from the patient's notes and shows to the consultant) And, what do you want to do about it?

(Cityview ICU: 3)

Medical consultants in the current study were often critical of junior doctors. Their main criticisms concerned junior doctors' lack of experience, which as a consultant at Cityview ICU stated, hindered them from *'seeing the bigger picture'*:

Mark: It is very difficult to get them to shift their attention... and the less experienced they are, the more they tend to just focus on their own issues as the most important issues for the patient.

(Cityview ICU: 138.3)

For the medical consultants in the current study, the reduction of junior doctors' hours in particular had had a profound effect in ICUs. This was because, the consultants' argued, it limited the opportunities junior doctors had to gain experience in the ICU and develop their knowledge of this medical specialism. It is precisely because of the specialist nature of the ICU service, the critical nature of patients' conditions there and its use of sophisticated equipment that junior doctors held less authority over initiating or making changes to the treatment plan for ICU patients. Consequently, the junior doctors' main role in the medical division of labour in the ICUs appeared largely to support and implement the medical consultants' plans.

The medical division of labour, as examined here, showed clear signs of degradation of work as promulgated by Abbott (1988), whereby the junior doctors held little autonomy and influence over the medical consultant's treatment plans for the patients. This can be contrasted with the organisation of nursing work noted in Chapter Seven in which nursing jurisdiction were shared and junior nurses were encouraged to take on responsibility for their patients' care. Medical consultants held a broad set of jurisdictions over ICU work, being responsible for patient treatment

plans and 'in charge' of the unit. Abbott argued that broad jurisdictions can make a professional group's work vulnerable to incursions by other professionals who aspire to taken on specific elements of work. In the ICU, the most prominent professional group other than doctors were the nurses. Patient care in the ICU was heavily reliant upon the exclusive and intimate one-to-one care provided by the bedside nurses; their role is examined next.

Nurses' role and care priority

ICU nurses in the current study accepted that the work of the ICU was organisationally divided into various components which different professionals were responsible for carrying out. ICU nurses overall reported that their role in intensive care was to act on behalf of the ICU patients, who were largely unconscious and unable to provide input regarding their care. For example, following an informal conversation with a senior nurse at Cityview ICU, the following was noted in the fieldnotes:

> *By bedside four, while Frank (band six nurse) filled in the ICU observation chart with the patient's vital signs, he emphasised that the ICU nurse's central role was in coordinating the care for the patient, acting in their best interest. According to Frank: 'In ICU, anything can happen at any time. It is up to the nurse to continuously assess and monitor the patient condition and report to doctors as appropriate.'*
> (Cityview ICU: 30.1)

The reason often given by ICU nurses for adopting the above viewpoint was the intricate knowledge they held of ICU patients' conditions, as examined next.

Nurses' intricate knowledge of patients' conditions

In the ICUs studied, bedside nurses appeared to hold an intricate and up-to-date knowledge of their patient's condition, progress and treatment plan. For example, during a field visit at Riverview South ICU the following interaction was noted between a band six bedside nurse (Tim) and a consultant (Mary):

> *Mary: How is he (patient) doing?*
> *Tim: He is doing great actually.*
> *Mary: Is he on dextrose?*

Tim: Yeah, and actrapid (glucose lowering drug). He hasn't had his bowels open. His NG (nasogastric tube) just gave 125ml until this morning. They've aspirated him but nothing aspirated. And now it looks like 25 since six this morning.

Mary: So we can start feeding him.

Tim: Yeah.

Mary: He needs to be more awake I think for extubation.

Tim: We'll try to stir him up a bit more.

Mary: Sinus rhythm?

Tim: Yeah, he went into AF (atrial fibrillation[6]) last night but when his electrolytes were supplemented he went to sinus and stayed that way.

(Riverview South ICU: 36)

ICU nurses perceived this characteristic of their role (intricate and up-to-date knowledge of patient condition) to be their distinguishing feature compared with other health professionals, and ICU doctors in particular.

ICU nurses in the current study accepted that the treatment objectives for patients in intensive care were set by consultants. Despite this, they argued that it was they who actually held control over the detailed operationalisation of their work. This translated into accounts which emphasised that nurses exercised a sense of discretion in determining the content and organisation of their work. In particular, ICU nurses maintained that while the patients' treatment plans were set by consultants, minute-by-minute decisions on aspects of patient care remained within the jurisdiction of the bedside nurse. Characteristically, a junior nurse at Riverview North ICU commented:

The aims and objectives are set by, the key ones, are set by doctors, because it is their job; and smaller, like hour-to-hour basic stuff, like when patients are going to get out of bed into the chair, that would be decided by nurses.

(Riverview North ICU: Louise, band five nurse)

The key difference between nurses in ICUs and other hospital areas lay in the provision of exclusive and intensive one-to-one patient care. Each ICU nurse was

[6] A type of cardiac arrhythmia.

allocated a particular patient for whom they provided exclusive care for the duration of their shift. This enabled the ICU nurse to develop close familiarity with a patient and use that intricate knowledge of the patient's condition, and their responses to particular treatment interventions, to make care decisions. As one nurse at Cityview ICU argued during an informal discussion:

> *Alice (band six nurse): Because you are the one, there, by the bedside, 24 hours a day, you know the patient inside out.*
>
> (Cityview ICU: 90)

Consequently, this intricate knowledge conferred a sense of nurses' authority and jurisdiction over the detailed operationalisation of clinical decision-making. For example, during a ward round at Riverview South ICU the following exchange occurred between a senior (band six) bedside nurse (Kaitlin) and a consultant (John):

> *John: Where are we ventilation wise?*
>
> *Kaitlin: She is doing great, there are her latest blood gases.*
>
> *John: Let's go with nurse-led weaning.*
>
> *Kaitlin: Should we set up our own CO_2 parameters? Cause if I follow the protocol I have no room to manoeuvre.*
>
> *John: Let's keep CO2 below 7.5, Ph 7.3.*
>
> *Kaitlin: Great.*
>
> (Riverview South ICU: 65.4)

ICU nurses, compared to general ward nurses, operated in an extended role. They were afforded autonomy to request particular tests, such as blood tests, and could make minor adjustments to minute-by-minute patient treatment protocols. ICU nurses could alter the dosage of blood pressure drugs to maintain this within set limits or reduce ventilator support to wean patients off the ventilator. Although nurses' extended role in ICU led them to take on more technical and medical aspects of patient treatment, this did not lead to them to becoming Zussman's (1992) 'mini interns'; rather, their overall care priority remained patient focussed as examined next.

Nurses' care priority

ICU nurses were not only responsible for the accurate and safe delivery of patient treatment, but also had a remit to attend to broader psychosocial needs of patients and their relatives. As a sister at Cityview ICU explained:

> *Essentially the outcome is you want a patient to survive but if they don't survive that their death, if you like, is managed well. That is always a challenge because sometimes you have conflicting views about what is the best for the patient... but I think the essential goal is that patients survive and if they don't, they have a pretty decent and dignified death, because it is difficult being a patient in ICU the least we can give them is a de- you know not a difficult death. And the other thing is the patient experience and I think... that the experience of the patient while they are with us is as bearable as it can be and their relatives. So I think it's not just a black and white survive, die, it's what goes on between all that.*
>
> (Cityview ICU: Judith, band seven nurse)

As the above quote suggests, patient survival was not the only, or most important, indicator of performance in intensive care, at least from the perspective of ICU nurses. For example, ICU nurses often brought aspects of patient comfort to consultants' awareness, such as issues concerning patients' pain control, feeding or restoration of normal bowel function. At a ward round at Riverview South ICU the following interaction was noted:

> *Lyne (band five nurse): I did a PR (rectal examination) and there're some hard stools there.*
>
> *John (medical consultant): Suppository or enema?*
>
> *Lyne: Suppository is softer for the patient.*
>
> (Riverview South ICU: 71.3)

Unlike ICU consultants, who appeared to largely focus on patient treatment and ultimately ICU discharge, for ICU nurses patient comfort and overall quality of care during the ICU stay appeared to be further key considerations.

Summary

As examined in this section, the division of labour between doctors and nurses in the ICU appeared to be one of hierarchical complementarity. Health professional roles in ICUs appeared to be complementary, although medical consultants maintained ultimate jurisdiction over ICU work.

Abbott (1988) argued that in particularly busy workplaces jurisdictional boundaries can be hazy as the realities of day-to-day practice necessitate flexible working practices. The findings examined here suggest the work of doctors and nurses was interdependent as each profession relied on the other in order to successfully undertake their work. While the macro view of this system of work indicated that doctors' and nurses' overall objective aligned, their professional priorities differed. The ways in which this influenced the interaction order in day-to-day practice (Strauss *et al*., 1964) and the means through professionals worked to accomplish (Allen, 1997) their jurisdictions is the focus of analysis in the second part of this chapter.

The division of labour in day-to-day practice

At the level of face-to-face interaction during day-to-day ICU work, doctors' and nurses' positions in the ICU division of labour did not appear static. During day-to-day practice they engaged in attempts to extend typical jurisdictions and even entered into the realms of other health professionals' territory. The ways in which this was negotiated and accomplished is the focus of the analysis here. The focus is particularly on the ways in which doctors and nurses managed their work *vis a vis* each other, balancing and reconciling their differing care priorities. In maintaining consistency with the structure of the previous section, the focus is firstly on ICU doctors, both consultants and junior doctors, followed by ICU nurses.

Accomplishing clinical leadership

While medical consultants held ultimate authority and acted as the leaders in the ICU, this leadership was not afforded to them *de facto*. During day-to-day practice, consultants actively worked to maintain this leadership and their authority over the ICU work, clinical decision-making in particular. This was achieved through different approaches. During day-to-day practice, the consultants' role as the clinical lead

essentially translated into welcoming input from other professionals to medical decisions pertaining to patient care. For instance, the consultant director at Cityview ICU commented in an interview:

> *You have to encourage discussion and debate and arguments in order to have a chain of command. So while it may sound dictatorial, it actually pulls the team together if they think they have a say, even if they are overruled at the end.*
>
> (Cityview ICU: Alan, medical consultant)

The above quote reveals that while on the surface this appeared to be an egalitarian approach, the consultant admitted it to be a strategy to maintain the appearance of collaboration rather than accommodate competing viewpoints, especially if these conflicted with his own plan of action, as signified through his choice of words (*'think they have a say'*). Moreover, the above quote indicates that the ICU consultant viewed the *'chain of command'* as something he had to accomplish in interaction, rather than something that was accepted unquestionably. In this context, the consultant's openness to other professionals' input appeared to be a strategy aimed at reinforcing his own position in the ICU.

The medical consultants, as the ultimate decision-makers, were accountable for ICU patient welfare. They drew on this accountability to selectively deflect other professionals' input and persist with the line of action they perceived to be most appropriate. A consultant at Cityview ICU commented:

> *We have gone very much to a multidisciplinary team approach, which is fine, as long as you always remember one thing. When push comes to shove and you end up at the GMC (General Medical Council), the only person they are interested in is the consultant in charge.*
>
> (Cityview ICU: Mark, medical consultant)

As the above quote indicates, the medical consultant's accountability to the GMC can discourage collaborative practice. In order to protect himself from liability he reported to be wary and dismissive of other professionals' input to treatment decisions. The consultant vividly described this situation:

> *What happens in ICU a lot is that you will have a nurse or a physio or a junior doctor who says, wouldn't it be nice to do so and so, and everyone says, 'Ooh yes, that would be nice.' And then the consultant in charge who says, 'I don't really think we should do that', has to then argue with everyone who thinks that it's a great idea, but he is looking at it saying, 'I don't think this is going to work, I've been around for 25 years, I've seen it fail before. If it fails, I'm the person who said we should do it. I'm the one who carries responsibility. I'm making a decision that it may be what everyone wants but I don't think it's in the patient's best interest.'*
>
> (Cityview ICU: Mark, medical consultant)

Here, the medical consultant appears constrained by what has been described in the literature as a wider risk management movement in healthcare (Horlick-Jones, 2005; Hillman *et al.*, 2013) which creates anxieties among health professionals, such as concerning their accountability to regulatory bodies. In an ethnographic study of four British hospitals involving observations of actual practice in general wards and interviews with clinical directors, Hillman *et al.* (2013) identified health professionals and nurses in particular referring to accountability and risk in order to justify actions that compromised patient dignity and quality of care, such as not taking a patient to the toilet out of concern they might have a fall. Hillman *et al.* argued that this concern was felt most strongly by staff lower in the hierarchy (e.g. nurses) rather than senior staff (e.g. medical consultants). In the current study, however, ICU nurses did not refer to issues of accountability. The disclosure of the medical consultant about his concerns over his accountability to the GMC can be distinct to ICUs and indicate this setting holds different features compared with general hospital wards in terms of health professionals' accountability.

Instances were also noted when medical consultants ultimately conceded to the line of action suggested by other ICU professionals. Even in these instances, consultants still did not acknowledge that they acted on other professionals' input. During the ICU ward round the medical consultants defended their viewpoints ferociously, maintaining their jurisdiction over decision-making. The following fieldnote extract reports a characteristic incident that occurred during a ward round at Cityview ICU:

The ward round continued with the doctors moving on to see the patient in bed space six. The consultant commented how the patient was not improving.

Alan (medical consultant): 'Has he been on the ventilator all night?'

Patricia (band five nurse): 'Yes.'

Alan: 'And may I ask why?'

Patricia: 'He was getting really tired...' (interrupted)

Alan exhaled forcefully, shook his head, crossed his hands and said: 'Well, I am tired. You don't see me on a ventilator!'

Ruth (band seven nurse): 'His sats were dropping, his blood pressure was rising…' (interrupted)

Alan: 'If we don't get him off the ventilator soon he is going to become a permanent resident.'

(Cityview ICU: 87)

As this extract illustrates, the consultant alluded to a patient's progress to discharge in order to justify his line of action of weaning the patient off the ventilator despite the bedside nurse's concerns. In the above incident, the ICU consultant invoked the image of a patient becoming a *'permanent resident'*, as an unacceptable outcome in order to demonstrate the importance of his proposed action.

The consultant's strategy in the above instance was partly successful as the senior nurse intervened and assured him that they would work to gradually wean the patient off the ventilator. Although the consultant remained hesitant, he did not continue the discussion. The bedside nurse eventually allowed the patient to rest on the ventilator through the morning, but began to wean him off the ventilator by the afternoon. Here is an example of how although the consultant maintained authority over the patient's treatment, nurses could postpone an intervention they perceived to be inappropriate. In this instance, the senior nurse supported and defended the bedside nurse's actions by demonstrating her intricate knowledge of the patient's condition and reactions to medical interventions ('*his sats were dropping, his blood pressure was rising'*). Moreover, in the above extract, the different concerns and priorities of ICU doctors and nurses can be observed. In particular, the ICU nurse's concern about patient comfort informed her decision to allow the patient to remain on the ventilator in

order to *'rest'*. In contrast, the ICU consultant's concern with the patient being discharged informed his decision to proceed with further treatment.

Shared jurisdictions

Medical consultants themselves were noted to stray into other territory, namely traditional nursing jurisdiction. In particular, while ICU nurses argued that the psychosocial needs of the patient were within their own jurisdiction, consultants in ward rounds often asked about such aspects and had a say, for example, in how or whether relatives were spoken to by medical staff, or whether specialist services needed to be called, such as bereavement officers or chaplaincy services. For example, on repeated occasions a medical consultant at Cityview ICU was noted to end the discussion about a particular patient either explicitly instructing the bedside nurse about how to proceed with particular 'social issues' that came to his attention, or asked about any such issues he needed to be made aware of. Not attending to social issues was even perceived as an omission; on one occasion at Cityview ICU, the medical consultant having left a particular bed space and moved on to the next, he hastily returned to say:

> *Mark: I haven't addressed any social issues… is the family informed [about the patient's lack of progress]?*
> (Cityview ICU: 6)

In earlier research Carmel (2003) identified that ICU nurses held firm jurisdiction over patients' psychosocial care with doctors being in control of diagnostic and treatment aspects. This is a widely held distinction that applies to different healthcare settings, as evidence from Walby *et al.*'s (1994) and Snelgrove and Hughes' (2002) research in acute British hospitals and Griffiths' (1997) research in British community mental health settings show. In particular, Svensson (1996), following interviews with nurses in Swedish hospitals, argued that nurses hold a unique claim over patients' psychosocial care and draw on this to challenge medical authority thus lifting their status in the healthcare division of labour. The shifting focus in healthcare from acute illness and treatment to long-term conditions and care provides nurses, according to Svensson, with a negotiation space through which to claim a higher occupational

standing. However, in the current study, ICU consultants were also identified as claiming a role in patients' social care needs by explicitly referring to, addressing or asking about such issues during the ward round. The finding of ICU consultants holding sway over patients' social issues contradicts findings from previous research. Specifically, Coombs (2004), through her ethnographic study of three British ICUs, identified that patients' social care needs were not a priority for ICU doctors. According to Coombs, nurses attempted to raise such issues for discussion with doctors yet they were unsuccessful. Unlike consultants in the current study, doctors in Coomb's study devalued aspects of social care that consequently remained on the periphery of decision-making in those ICUs.

Abbott (1988) argued that one of the medical profession's strategies for reinforcing its dominance in the division of labour is by retaining a formal presence in areas of healthcare work almost exclusively delegated to nurses. While it cannot be denied that doctors also have a responsibility in attending to patients' social care needs, ICU consultants in the current study may have been engaging in what Allen (1997; 2001) described as purposive boundary blurring. In particular, Allen distinguished between *de facto* boundary blurring, to refer to nurses unavoidably undertaking doctors' work out of necessity, and purposive boundary blurring to refer to nurses intentionally undertaking medical tasks to facilitate the delivery and continuity of patient care. In the ICUs studied, consultants were found to intentionally and purposively address matters of social issues thus purposively sharing this jurisdiction with nurses. In this way, consultants can be seen as actively working to reclaim control over this aspect of patient care and in so doing continue to have a presence in all aspects of ICU work, even those over which nurses claimed unique jurisdiction. Concurrently, this suggests that ICU work is becoming increasingly inter-professional in nature with doctors and nurses sharing work jurisdictions. This is likely a response to the DH (2000b; 2005b) modernisation policies for ICUs that aimed to encourage inter-professional working practices. This could explain the conflicting finding reported by Coombs (2004) since data collection for that study was carried out between 1998 and 2000, before these DH policies were introduced.

Admission to the ICU was another jurisdiction which the consultants and nurses shared. Despite the ICU consultants holding jurisdiction over matters of patient admission, the reality of the working environment, particularly in terms of nursing staffing requirements, meant consultants often had to liaise with the nurse in charge before accepting any admissions to the unit. While it was still the consultant's decision whether to accept an admission, in daily practice this defaulted to the nursing staff and their capacity to cover the ensuing workload. An extract from the fieldnotes from Riverview South ICU indicates a typical conversation between a nurse in-charge and a medical consultant:

> *The nurse in charge (Arnold) approached the consultant (Christian) at the beginning of the shift and said:*
> *Arnold: 'Do you have a moment?' (Christian nodded affirmatively) 'I have three beds empty.'*
> *Christian: 'Which is not good.'*
> *Arnold: 'No, and I don't have many nurses either.'*
> *Christian: 'I've not been made aware of any admissions.'*
> *Arnold: 'We could take one if we are being flexible*.'
> (Riverview South ICU: 14.4)

In the above extract, the nurse in charge approached the consultant from a position of proactivity while openly affirming his position as holding sway over potential admissions. Consultants themselves were also observed to approach the nurse in charge to ask about the unit's capacity, reaffirming the nursing input in this matter. Such interactions between consultants and the nurse in charge were also noted at Cityview ICU:

> *While Mark (consultant) was typing on the terminal in the nurses' station, he lifted his head to see Antony (nurse in charge) who was passing by, and said:*
> *Mark: 'Antony, how many (empty) beds do you have?'*
> *Antony: 'It's a secret! I've got more than enough to do this afternoon without admitting anyone.'*
> (Cityview ICU: 115-116.1)

ICU consultants did not appear uncomfortable or unwilling to share jurisdiction over this aspect of their work with the nurse in charge. In an interview the consultant at Cityview ICU spoke very supportively of this arrangement:

> *The manpower issues around admissions default to the nursing staff. In other words, nurses decide whether we can or can't increase our patient numbers based on nursing requirements. So it is the nurses who control bed numbers.* (Cityview ICU: Alan, medical consultant)

As the above quote illustrates, it was in response to the work exigencies in the ICU, in this instance nurse staffing requirements, that the consultant appeared to purposively share this jurisdiction with the nurse in charge.

Unlike the earlier example of patients' social care issues, patient admission is an example of what Allen (1997; 2001) referred to as *de facto* boundary blurring. In particular, because ICUs provide one-to-one nursing care, matters of patient admission defaulted to issues of capacity in terms of nurse staffing. Even though consultants in ICUs held clear authority over patient admissions, they were comfortable with sharing this aspect of their role with the nurse in charge. This finding lends support to Abbott's (1988:67) argument that in overworked workplaces jurisdictional boundaries between professions can be undermined by the 'reciprocal assimilation necessary for effective functioning'.

Clinical decision-making

While medical consultants in the ICUs used their position in the hospital hierarchy to maintain their clinical boundaries, on many occasions their authority was also challenged by other professionals, in particular ICU nurses. The most contested field of work appeared to be the authority to make decisions over patient care. While the medical consultants' jurisdiction over this was not denied or often challenged by others, different professionals, particularly nurses, did exhibit attempts to influence and resist medical instruction.

ICU nurses in the current study drew on their intricate knowledge of patients' conditions, developed through their close and sustained interaction with ICU patients, to influence the medical ward round and the decisions reached. This influence was

exerted tactfully, although overtly. For example, typically bedside nurses would attempt to influence decision-making during the ward round by asking the medical consultants about possible changes to treatment. Such examples included reducing dosages of drugs, stopping antibiotics, administering feeding, or gradually weaning a patient off the ventilator; some typical questions nurses asked at ward rounds across ICUs included:

-"can I start feeding?"

-"stop antibiotics?"

-"hold fluids?"

The consultants' responses to such questions was typically either approving of the nurse's suggestion or tentatively permissive of the nurse to proceed only with the condition that the situation was re-evaluated. A typical consultant reaction encountered across ICUs was:

-'why don't you try that and see how it goes?'

While this interaction style is suggestive of nurses adopting a subtle and indirect approach to influencing medical decisions, there were also examples of overt attempts by nurses to contribute to medical decision-making. These were mainly exhibited by senior or experienced ICU nurses rather than junior ICU nurses. The following interaction was recorded during a field visit at Cityview ICU:

> *With the ward round at bedside four, Mark (medical consultant) stated that the patient would be kept off sedation for fear of renal failure.*
> *Charlotte (band seven nurse): 'She (patient) is also on amoxapine (sedative) if we're worried about that (renal failure).'*
> *Mark: 'What can we do about that?'*
> *Charlotte:' She's on 60, prophylactic dose is basically 40.'*
> *Mark: 'Let's do that.'*
> (Cityview ICU: 122.2)

In the above instance, the senior nurse and consultant discussed possible treatment options for the patient openly, with the consultant also asking for the bedside nurse's

opinion (*'What can we do about that?')*. Here, the interaction was collaborative although the final decision still needed to be taken by the consultant. It is likely that the senior nurse's experience and knowledge enabled her to engage with the consultant in the conversation and contribute openly to the decision-making for her patient.

ICU nurses were seen to be actively drawing from their intricate knowledge of the patients' conditions and reactions to drugs to contribute to medical decision-making. This intricate patient knowledge that ICU nurses held was also acknowledged by doctors. For example, on occasions consultants would seek bedside nurses' input in making a decision about patients' readiness to be extubated:

> *John (medical consultant): 'What happens if you wean fentanyl (anaesthetic)?'*
> *Jo (band six nurse): 'He gets agitated, we tried yesterday.'*
> *John: 'Lets add halo[peridol] 1-2.5, wean fentanyl, keep propofol*.'
> (Riverview North ICU: 19.4)

> *Christian (medical consultant): 'Do you think you can turn down sedation or is she not tolerating the tube?'*
> *Danni (band five nurse): 'I can try.'*
> (Riverview South ICU: 21)

While most active contributions from nurses to medical decisions were mainly observed from senior nurses, some instances from junior nurses were also noted. For example, the following interaction was noted at Riverview South ICU between a medical consultant and a junior nurse:

> *Rachel (band five nurse): 'He's been having hallucinations. Maybe you would like to review his methadol?'*
> *Mary (medical consultant): 'Hmm… fine.'*
> *Rachel: 'About metoprolol, because his blood pressure can get quite low, are you not worried about it?'*
> *Mary: 'He is young, he can take it! If you're really concerned you can ask us again.'*
> (Riverview South ICU: 6.2-7.1)

While in the above interaction the junior nurse engaged rather confidently with the medical consultant about her patient's treatment, the consultant in this instance was less supportive. In response to the nurse's first comment about methadol the consultant was initially hesitant to alter the prescription but ultimately conceded. Here, the consultant appeared to acknowledge the nurse's knowledge of the patient's condition and response to the particular drug (*'He's been having hallucinations')* as a legitimate argument. However, the consultant was dismissive of the nurse's concerns about the patient's blood pressure and deferred the decision for later. While the consultant's argument for this was rather vague (*'he can take it'*), the junior nurse, lacking in experience, did not challenge this or ask for further clarification.

Junior ICU nurses' interactions with consultants were overall rather reserved. While the previous instance indicates that some did attempt to inform a consultant's decision, most were noted to simply report descriptive facts about patients' conditions with minimal interpretive effort or recommendations. A typical interaction between a junior nurse and consultant was noted at Riverview North ICU:

> *Christian (medical consultant): Do you have a target blood pressure?*
> *Michelle (band five nurse): 30 systolic.*
> *Christian: She's (patient) on dextrose?*
> *Michelle: 10%.*
> *Christian: Is she on any antibiotics?*
> *Michelle: She's on oxoflacynin.*
> (Riverview North ICU: 63)

Jurisdictional disputes

Disputes between doctors and nurses appeared to arise when nurses were perceived by consultants as having gone beyond the boundary of their jurisdiction, for example in insisting on a change in the medical plan or resisting a medical decision. A typical case of this was patient extubation, as the following extract from the fieldnotes at Riverview South ICU shows:

> *Janice (band six nurse) commented how she believed her patient was ready to be extubated, but needed to get hold of the doctors to confirm. As we were*

talking, Theodore (junior doctor) walked by and Janice called to him.

Janice: 'Theodore, he (patient) is getting quite annoyed by the tube.'

Theodore: 'What did the consultant say?'

Janice: 'I haven't seen her to ask her actually. I just did another gas and look...' (showed ABG result to Theodore).

Theodore: 'Ah, there she is.' (Theodore waved and invited consultant to approach)

Mary (medical consultant) approached the pair, stood up straight and looked at them both.

Janice: 'I was just telling Theodore that he (patient) is doing very well and his gases are good, and I was wondering if he can be extubated?'

Mary turned to look at the patient, who at that moment looked particularly quiet and still; Mary did not say anything but turned back to look at Janice.

Janice: 'He does look a bit drowsy but he responds when you talk to him.'

Mary: 'We will come round to have a look at him shortly.'

Janice: 'That's fine.'

Thirty minutes later Mary had not come round to Janice and Janice was feeling more anxious about getting her patient extubated. She went to find Mary and asked again about when the patient could be extubated.

Mary: 'You need to convince me! We are seeing another patient first so that gives you more time to think about how to convince me.'

Two hours later and Mary had not come round to Janice's patient. The patient at this moment looked quite awake, agitated and clearly not tolerating the tube.

Janice: 'I'll go get her now.' (turning to me and went to find Mary)

Janice returned accompanied by Mary. Mary spoke to the patient and asked him how he was feeling. The patient responded (nodded).

Mary: 'He seems awake enough now (turning to Janice). We will get him (off the ventilator).'

(Riverview South ICU: 31, 34, 38)

In the above extract, a typical instance was noted in which the bedside nurse believed her patient was ready for extubation but required the consultant to confirm her assessment. However, whether or when a patient could be extubated was not a decision the bedside nurse could legitimately take or initiate. Indeed, the consultant involved was seen to resist the nurse's suggestion and instead took full ownership of the decision by asking the nurse to 'convince her' and by delaying the extubation until a later time. What enabled nurses in ICUs to attempt to compete with medical authority over such matters was that these were highly dependent on patient minute-by-minute patient progress and responsiveness to treatment, which fell within the nursing jurisdiction. ICU nurses could claim greater and more up-to-date knowledge of patients' conditions than ICU doctors, and were thus empowered to use that knowledge in making claims over medical decision-making. In the above instance, the bedside nurse drew on her intricate knowledge of the patient's condition to make a request for an extubation. However, the medical consultant rejected the nurse's claim based on her own observation of the patient. Ultimately, the patient was extubated, but through the interaction that took place, that decision was firmly taken by the consultant with little or no recognition of the nursing input. In the above instance, the nurse's attempt to cross into medical jurisdiction was not successful as it encountered firm resistance by the consultant. Although the nurse's ultimate aim (extubation) was achieved, this was delayed by over two hours.

While some areas of medical work were clearly beyond nurses' jurisdiction, and even influence, others appeared to be more permeable. For example, getting a patient out of bed to sit on the chair was a typical medical instruction aimed at improving the patient's respiratory function, but it also conflicted with nurses' concerns over the patient's comfort. When a sister at Cityview ICU was asked to comment about this, she explained:

> *When you turn a patient, it may become quite obvious that they haven't got that strength to sit upright in a chair, or that they had constant diarrhoea or that they've been vomiting a lot and that getting them out of bed is actually not going to be very pleasant, for anyone. Now the doctors tend to be a little bit tunnel-visioned; all they see is sitting in a chair helps their lung function.*

They don't see perhaps the difficulties and the unpleasantness for the patient that surrounds just getting someone out of bed; and I think that's where the conflict comes.

(Cityview ICU: Judith, band seven nurse)

As the above quote suggests, a difference in focus between medical consultants and nurses was perceived by the senior nurse to lead to potential clashes between doctors and nurses in ICUs. Here, the senior nurse used nurses' intricate knowledge and close interaction with ICU patients to highlight the potential unpleasantness that patients experience when prematurely made to sit upright in a chair. In such situations, nurses in ICUs often alluded to patient comfort in order to deter such medical instruction until a time they perceived to be more appropriate and when the patient was more able to cope.

Junior doctor-ICU nurse interactions

While nurses' attempts to influence medical decisions were often done tactfully and were sometimes unsuccessful when interacting with ICU consultants, this was not the case with junior doctors. ICU nurses exhibited greater confidence and persistence in their interactions with junior doctors, often providing overt instruction rather than plain recommendation. Junior nurses in particular, while they were seen to be reluctant to engage with consultants, were more confident when interacting with junior doctors.

For example, ICU nurses would often ask junior doctors to change a patient's prescription based on their own assessment of the patient condition:

Diane (band five nurse): 'Would you mind changing the haloperidol to PRN? He doesn't really need it.'

Damon (junior doctor, SHO): 'Yes, I agree. He is much better.'

(Riverview North: 108.2)

ICU nurses were also frequently noted to ask junior doctors to sign various forms or prepare relevant documentation for their patients. In particular, nurses themselves often completed forms requesting blood tests or x-rays for their patients and then asked junior doctors to sign these:

Janet (band five nurse): 'Jacob (junior doctor, SHO), could you sign a chest x-ray for me?'

Jacob nodded affirmatively.

Janet: 'I'll get it ready and then I'll call you.'

(Cityview ICU: 36.1)

Although such form filling was within the role of the junior doctors, nurses' experience in the ICU and familiarity with the ICU consultants' preferences and routines concerning the timing or frequency of various tests meant they often could anticipate and be proactive in making such requests. Junior doctors were not noted to resist or question such requests from nurses. This may have been due to junior doctors accepting nurses' greater ICU experience and familiarity with consultants' preferences, in combination with their aversion to hospital paperwork.

The manner with which nurses made such requests varied according to whether nurses were more junior or more senior in the ICU. In particular, while junior nurses mainly used an inviting tone in their requests, senior nurses were often more direct, as the next example from Cityview ICU illustrates:

Kathryn (band seven nurse) while at bed space one called to Susan (junior doctor, SHO) who sat at the nurses' station. Susan walked up and approached Kathryn.

Susan: 'What do you need me to do?'

Kathryn: 'Just a discharge summary.'

Susan: 'Yeah, I can do that.'

(Cityview ICU: 97.2)

Junior doctors in ICU were particularly attentive to senior nurses. While this may have been a response to senior nurses' position in the nursing hierarchy, this also suggested junior doctors appreciated senior nurses' experience, expertise and tenure in the ICU.

Another typical example of nurse-junior doctor interaction concerned maintaining ICU patients' electrolyte balance, which was important for maintaining cardiac function. The prescribing of electrolytes, as with all drugs used in an ICU, was within the

jurisdiction of doctors. However, through the frequent monitoring of blood gases, ICU nurses were in the most appropriate position to identify an electrolyte imbalance and administer a corrective dosage of electrolytes in a timely manner. The following fieldnote extract from Riverview South ICU reflects a typical interaction between ICU nurses and junior doctors:

> *Julia (band six nurse) approached Tom (junior doctor, SpR) who sat in front of the computer at the nurses' station.*
> *Julia: 'Tom, while you are there, bring up bed five and prescribe some magnesium for me will you.'*
> *Tom: 'Magnesium?'*
> *Julia: 'Yeah.'*
> *Tom: 'Sure.'*
> *Tom brought up Julia's patient's drug chart on the computer and prescribed the magnesium per Julia's instructions.*
> (Riverview South ICU: 76)

In the above interaction, the ICU nurse directly instructed the junior doctor to prescribe the electrolyte she required. The junior doctor was seen to consent to the nurse's request without questioning the basis of that request. Although magnesium was not classified as a 'controlled' drug and was indeed administered rather frequently in the ICU, incorrect and unnecessary administration could lead to serious cardiac arrhythmias, potentially leading patients to a cardiac arrest. Here, the junior doctor accepted the nurse's judgement and followed the instruction. Although the particular exchange is more representative of a senior nurse-junior doctor interaction, junior nurses were also noted to make such requests albeit with a more inviting tone. In relation to such requests to junior doctors, a difference between the ICUs studied was not noted.

Furthermore, ICU nurses were found to challenge junior doctors' medical authority if they perceived the actions taken by the junior doctor to be questionable or unsatisfactory. For example, in her interview a junior nurse at Cityview ICU described her frustrations with a particular incident on the ICU involving a deteriorating patient for which she felt the junior doctor did not take appropriate action:

Yesterday we had a man who was on Vapotherm and needed more oxygen and they were going to try and put non-invasive ventilation on him, but he was refusing. And he had a huge abdominal surgery, and he started to feel sick. The first thing that I did was give him an anti-emetic, and I was giving him that through his cannula, but he was saying that was really painful and so I couldn't give him the proper medication. The doctor, I had already told him that he needed a major gastric tube, so I was going to give him an anti-emetic first, then he needed a major gastric tube. Well, as soon as I couldn't give all the anti-emetic I went straight back to him and said 'Okay, he needs better access, because he's deteriorating, he's vomiting and he's needing more oxygen, so come and put a line in because we need to give him something to stop him vomiting. And I was quite forceful because he was sort of sitting around going, 'Oh yes do.' But he wasn't really offering any suggestions.

(Citvyview ICU: Tracy, band five nurse)

The nurse continued to say that the junior doctor found it difficult but did eventually manage to insert a new line for the patient's medication. In the above instance, the nurse defended her claim about the required intervention based on her interaction and assessment of the patient. As the decision or intervention was beyond her own jurisdiction, a junior doctor was called to intervene. However, as the nurse's interpretation of the junior doctor's action was found to be wanting, she became more assertive and instructive. While this interactional style was not uncommon between both senior and junior nurses and junior doctors, it was not an interaction style observed with medical consultants.

ICU nurses were also often seen to informally engage in teaching junior doctors. Such teaching could be about atypical or infrequent interventions as well as more routine clinical skills. For example, the following two incidents were witnessed at Cityview and Riverview South ICUs respectively:

The phone rang, Charlotte (band seven nurse) answered.

Charlotte: 'Yeap, OK, thank you.'

Charlotte turned to the junior doctors congregated around the nurses' station, and said:

Charlotte: 'Guys, the consultant neurologist is on his way for the brain stem testing.'

There was no noticeable reaction from the junior doctors, apart from some nodding.

Charlotte: 'Have you seen that before?'

Marlene (junior doctor, SHO): 'No, not really.'

Charlotte: 'Here's what you do.'

Charlotte explained the procedure to the junior doctors, including what preparations were needed.

(Cityview ICU: 129)

While at the ward round the consultant asked one of the junior doctors (George) to change the patient's peripheral IV line. George got ready and approached the patient, but he appeared unsure and hesitant. George turned to the bedside nurse and asked: 'Ehm, how, ehm, where do I stand?' The bedside nurse approached George, stood next to him and appeared to whisper some directions.

(Riverview South ICU: 6)

The extracts above represent interactions between junior doctors and senior rather than junior nurses. Together, these examples lend further support to the argument that experienced ICU nurses' knowledge over typical, for them, tasks was superior to junior doctors. Again, the relative permanence of nurses in ICUs compared to junior doctors enabled nurses to develop a particular skill and knowledge base which they then could pass on to junior doctors.

Through his ethnographic work Carmel (2003; 2006) identified a complex working relationship whereby senior ICU nurses were often more knowledgeable about ICU work than junior doctors, which led to the former 'bossing around' the latter. The current research did not identify evidence of senior nurses overtly bossing junior doctors around, on the contrary there were numerous instances in which both junior and senior nurses appeared to engage with junior doctors in a way that suggested a flattened professional hierarchy. In particular, nurses urged or in some instances openly instructed junior doctors to change or extend routine prescriptions, while in

other instances they engaged in informal teaching of junior doctors, in particular about routine ICU procedures. For Abbott (1988) this is an unavoidable part of many organisational arrangements in which different levels of different professions are required to work together on a given task. In such instances the most junior of the profession higher up in the hierarchy can be found levelled with the most senior of the profession immediately below in the hierarchy (Abbott, 1988). This levelling up of the hierarchy was evident in the current study, but predominantly at the senior nursing – junior medicine boundary.

The permanence of nursing staff in hospital settings affords nurses the knowledge over local policies and practices which has been identified as augmenting nurses' influence over doctors in a variety of settings (e.g. Mumford, 1970; Hughes, 1988; 2002; Coombs, 2004). However, the extent to which this finding applies to both senior and junior nurses has not been clarified in previous work. In the current study, it was senior nurses who mostly adopted a confident and direct approach in their interactions with junior doctors, often issuing them with instructions. In contrast, junior nurses were less confident and assumed an indirect manner in interacting with junior doctors, often eliciting advice or offering suggestions. This may be in response to junior nurses lacking the experience and local knowledge that would have enabled them to approach doctors with explicit instructions rather than suggestions.

ICU nurses used different interactional approaches and techniques to legitimise their role and their claims over patient treatment decisions, depending on whether they interacted with consultants or junior doctors. When interacting with consultants whose role in the ICU division of labour was established, nurses drew on their unique insight and familiarity with the patient rather than questioning the consultant's authority, experience or knowledge base. However, when interacting with junior doctors, whose role in the ICU was transient and less established, they would overtly draw from their own clinical experience and knowledge to influence, resist or initiate a particular medical decision.

The doctor-nurse relationship

Following Abbott (1988) jurisdictional boundaries between professions were expected to be in perpetual dispute in the ICU workplace, especially considering doctors' and nurses' different care priorities. While these differences did lead on occasions to disagreements and disputes, such as about allowing a patient to rest on the ventilator, perpetual disputes and conflicts were not the norm. This finding contrasts with previous research reports. Zussman's (1992) ethnography of two North American adult ICUs uncovered overt conflict between nurses and doctors, including open confrontation and shouting, which led him to argue that the constant presence of both doctors and nurses in the ICU enclosure makes conflict inescapable. The source of this conflict, according to Zussman, was in personality clashes between the two professions, with doctors describing ICU nurses as territorial and nurses describing doctors as disrespectful and arrogant. This difference between the current study's and Zussman's findings is likely a reflection of the different organisational features between the ICUs that Zussman studied and the ones studied here. In particular, the three ICUs studied here had dedicated medical and nursing staff who took over responsibility for patients' treatments while in the ICUs; admitted patients thus became 'ICU patients'. This is characteristic of 'closed units' and over 80% of British ICUs (Audit Commission, 1999; Carmel, 2003; 2006; ICNARC, 2003). Zussman's North American ICUs in contrast appeared to be a hospital area of intensive observation and treatment for which responsibility remained with the admitting team – e.g. surgeons – and in which the ICU doctors merely advised; these are referred to as 'open units' and are characteristic of North American ICUs (Levy *et al.*, 2008; Gajic and Afesa, 2009; Popovich, 2011). The conflict that Zussman observed was primarily between the unit-based nurses and non-ICU medical staff of varying specialisms who had their patients cared for there. Although Zussman's observations remain valid, the conflict he observed may have been a clash between resident and non-resident ICU staff rather than simply doctors and nurses as he argued. In this context, the current study's finding of a lack of overt conflict suggests that a 'closed unit' approach may foster collegiality between doctors and nurses in ICUs, and lends weight to arguments made

for the wider adoption of a 'closed unit' approach to ICU care (Levy *et al.*, 2008; Kimm *et al.*, 2010).

The current study findings also lend support to Carmel's (2003; 2006) British ethnography of three ICUs which concluded that the seclusion that the ICU provided to staff, paired with the critical and uncertain conditions of ICU patients, served to reify doctors and nurses as a team and encourage collaborative working. Carmel did not identify overt conflict between doctors and nurses, but in contrast, he found the two professions joining forces and creating an allegiance against the rest of the hospital; although the proprietors of this were the ICU consultants who appeared to incorporate and assimilate nurses into what Carmel described as the doctors' 'ICU project'. Although evidence from the current research lends some support to Carmel's argument that distinct clinical features foster a collaborative culture in ICUs, doctors and nurses in the ICUs studied did not appear to develop the strong allegiance that Carmel argued prevailed in his study. In particular, ICU nurses in the current study did not appear assimilated into medicine. Instead, nurses used the intimate, up-to-date and intricate knowledge they held of patients' conditions to claim a unique nursing contribution to ICU work. While both professions appeared concerned with supporting patients' physiological functions and nurses appeared to follow doctors' 'grand plan', they nevertheless appeared to have different professional care priorities. ICU doctors appeared more concerned with enabling patients to be discharged to a ward as quickly as possible, while nurses emphasised that patients' comfort and quality of care were matters of equal importance.

Summary

Abbott (1988) argued that in the workplace jurisdictions can be settled in three ways: professions can have full control of work jurisdictions at times, while at others can have part or shared control, or control subordinate to another profession. The findings examined here are reflective of Abbott's theorisation: nurses held control of the execution of patients' treatment plans subordinate to medical consultants who had final say; nurses shared the jurisdiction over patient admission and patients' social care issues; and, nurses had full control over the minute-by-minute operationalisation of the nursing care for their patients, including issues of patient comfort.

Moreover, certain areas of jurisdiction such as patient extubation and medication plans were at times contented, with nurses attempting to, but being unsuccessful in, claiming a say in these jurisdictions. However, medical consultants were not equally resistive to all nurses, but rather were found to more easily accept input from senior staff. In this sense, medical consultants did not appear to treat all nurses as a homogenous group but rather were more content to sharing jurisdictions with those more senior. This finding indicates that Abbott's (1988) theorisation of professions as rather homogenous groups can be unhelpful and instead it can be more meaningful to take account of professional seniority in such analyses of systems of work.

The extent to which the processes examined so far applied equally to moments of urgent clinical work is the focus of the next section. This shift in focus is necessary in order to gain a fuller and more comprehensive understanding of professional work in ICUs under the different conditions of work intensity that characterise it.

ICU work under conditions of urgency

The previous section highlighted the inter-professional dynamics between doctors and nurses in defending or claiming their position in the ICUs. Such encounters were largely noted during non-urgent situations. While this served as an important backdrop, closer analysis of observed instances of health professionals working under urgent conditions, such as sudden patient deterioration, suggested different principles were in operation. The means through which professionals accomplished their work under typical ICU urgent situations are examined next. This enables an examination of Abbott's (1988) model under the conditions of urgent work that characterise critical environments, such as the ICU, thus contextualising Abbott's approach into the setting of the current study and in so doing adding a new dimension to his model.

Here, data generated from both observations and interviews are analysed in order to identify the interactional processes involved. Initially the focus is on the ICU doctors, examining both consultants and junior doctors. This is then followed by an examination of ICU nurses' position.

Consultants and nurse seniority

In contrast to instances of non-urgent work, during situations that required urgent intervention medical consultants were less defensive of their position in the ICUs as ultimate decision-makers. Instead, interactions with other health professionals, and nurses in particular, were not subject to jurisdictional disputes. However, the approach consultants assumed depended heavily on the skills and experience of the nurse involved in the incident.

When an experienced nurse was the bedside clinician involved, medical consultants assumed a more detached and supervisory role. In particular, they allowed ICU nurses to take initiative while they oversaw from afar. For example, during a visit at Riverview South ICU the following incident was noted:

> *As the ward round moved to bed space 22, Jacob (band six nurse) in bed space 19 noticed his patient's blood pressure dropped dramatically. The monitor alarm went off and Jacob rushed to the bedside cabinet and pulled out a bag of fluids (gelofusine). John (medical consultant) took notice and approached the bed space; he glanced at Jacob, and then moved to stand in front of the patient's monitor which he looked at intensely. Jacob prepared a fluid-giving set and quickly connected it to the patient's IV line. Rachel (band five nurse) from the next bed space noticed the increased activity.*
> *Rachel: 'Jacob, are you alright?'*
> *Jacob: 'He's (patient) done this before.'*
> *Jacob squeezed the fluid bag while looking at the monitor. John turned to look back at Jacob, they exchanged a look, and then both looked back at the monitor. The monitor alarm silenced as the patient's blood pressure rose. John moved back from the monitor to the bedside computer station, brought up the patient's notes and prescribed the fluid just administered.*
> (Riverview South ICU: 22.2)

As the above extract indicates, the consultant in this instance, although not called by the bedside nurse to assist, approached the bed space and assumed the role of overseeing the bedside nurse's intervention and patient's responses. This supervisory role was not negotiated between nurse and consultant, but the absence of a reaction

towards the consultant's presence by the nurse suggested this was an acceptable and expected role for the consultant to assume. As the person holding ultimate decision-making authority and accountability in the ICU, the consultant's concern with overseeing the nurse's actions to ensure appropriate and effective intervention was taken established the legitimacy of this role.

Despite assuming a supervisory role, the consultant did not explicitly issue any instructions to the bedside nurse nor did he challenge any of the nurse's actions. Instead, his focus remained largely on the patient's vital signs, depicted on the bedside monitor, through which he could assess the effects of the administered intervention. The nurse, in taking the initiative to intervene and rectify the patient's condition, crossed his typical nursing jurisdiction. In particular, the nurse made an assessment of the situation, decided on a treatment option and initiated this without a medical prescription or instruction. Although not explicitly discussed with the consultant, the bedside nurse's statement of *'he's done this before'* suggests an in-depth knowledge of the patient and his physiological responses, which implicitly served to legitimise the nurse's actions. Although most ICU nurses do receive training in advanced life support, intervention in such events would still need to be guided by a doctor, particularly with regards to the administration of intravenous drugs.

In the above instance, the only interaction between nurse and consultant was the exchange of one look during the administration of the fluid. The nurse turning to look at the consultant could be construed as a likely means of implicitly seeking consent or attaining agreement to proceed with the particular course of action. Given that the consultant did not stop the nurse or interfere in any way, implicit approval and agreement by the consultant of the nurse's actions was given. When I later approached Jacob and asked him to comment on what had happened he did not recollect the minutiae of actions observed and was unable to comment in detail. He only reported that in such situations he tended to react instinctively, drawing from experience. While Jacob's comment does not lend direct support to the preceding argument, it does indicate that his past experience in dealing with similar situations, and knowledge and skills gained through that, served as the source from which he drew to initiate the observed actions.

Here, the medical consultant's authority and hierarchical position in the ICU remained as a backdrop. However, his interaction with the nurse was less hierarchical and more collegial and collaborative in nature. The consultant was less concerned with jurisdictional disputes, to defend his role as ultimate decision-maker, and instead allowed the nurse to operate in an extended role. An attempt to hold on to his authority was made by assuming the supervisory role; however, this was done implicitly. The consultant's particular skills as a diagnostician took primacy over his involvement with the delivery of technically appropriate intervention. Similarly, the nurse's technical skills in the rapid preparation and administration of fluids took centre stage. Therefore, competency was the decisive factor in establishing an appropriate division of labour during this situation under urgent conditions of work.

In contrast to interactions with experienced nurses, medical consultants adopted a different stance when the bedside clinician was an inexperienced nurse. Such an incident involving an inexperienced junior nurse and a consultant was observed during a visit at Cityview ICU and is described in the fieldnote extract below:

> *While I was explaining to Mark (medical consultant) my research timeframe, Janine (band five nurse) approached and addressed Mark.*
> *Janine: 'Excuse me doctor, my patient is becoming quite agitated… her sats (oxygen saturation levels) are dropping fast…'*
> *Mark walked with Janine to her bed space and I followed. Janine stood next to Mark who looked at the monitors and the patient's notes. Janine looked back and forth between the patient and the consultant. Mark turned and instructed Janine to increase the patient's sedative, do an arterial blood gas analysis, 'watch her', and see how it goes. Janine nodded and followed Mark's instructions.*
> (Cityview ICU: 25)

In this instance of a patient's sudden deterioration, the dynamic between nurse and consultant was more traditional. In response to the nurse's inexperience, made apparent by asking for help and claiming lack of knowledge on how to proceed, the consultant assumed a more instructive stance with the nurse. In this way he retained his authority and hierarchical position in the ICU.

The contrasting features between the two extracts suggest that under conditions of urgent work, the consultant's jurisdictional concerns appeared to be suspended. In his efforts to resolve the emergency at hand, and save a patient's life, he responded to each situation and tailored his actions accordingly based on the individual nurse's level of skill.

Junior doctors in emergencies

ICU consultants were not always present in the unit during sudden patient deteriorations as they rarely stayed in the unit for long once the ward round was complete. Therefore, during such instances junior doctors were often the medical professionals involved. Junior doctors, unlike consultants, assumed less of a supervisory position and took a more active role with hands-on clinical care. The following incident noted at Cityview ICU demonstrates such a situation:

> *While sat at the nurses' station making notes, I heard an alarm from the direction of bed space four and looked up. The patient on bed space four self-extubated, and was waving his intratracheal tube over his head. Kathryn (band seven nurse) tried to take hold of the patient's arm while Trisha (band six nurse) moved in from the next bed space and tried to keep the patient still by holding him from his shoulders while saying to the patient:*
> *Trisha: 'It's OK, OK'.*
> *Graeme (junior doctor, SpR) noticed the activity and rushed next to Kathryn who pointed out the ventilation mask to him. Trisha managed to keep the patient still and Graeme positioned the mask over the patient's face. Kathryn picked up an intubation set from the bedside cabinet and placed it on a trolley next to Graeme. She then moved to draw the curtains around the patient (blocking my view). A few minutes later Trisha opened the curtains and Graeme exited the bed space, removing his apron and gloves. The patient was re-intubated and appeared calm.*
> (Cityview ICU: 140)

In the above incident, the junior doctor was actively involved in the clinical management of the patient and held a greater role, more so than during non-urgent

routine work. Although he took direction from the senior nurse, his role in securing the patient's airway and maintaining and restoring ventilation was central.

Unlike instances of non-urgent work, in which ICU nurses often assumed a role of overseeing junior doctors' actions, during the incident described above the senior nurse assumed a supportive role to the junior doctor in his efforts to re-intubate the patient. Here, the junior doctor's particular skill set and jurisdiction over the intubation process, which was the catalyst to the successful resolution of incidence, took primacy and granted him centre stage in the work that ensued.

In typical non-urgent work mode, senior nurses were seen to openly instruct junior doctors. In the above incident the senior nurse only discreetly directed the junior doctor in the actions to be taken, implicitly acknowledging that his particular skill and jurisdiction over intubation granted him a higher standing in that particular incident. Here, the division of labour between nurse and doctor was neither discussed nor openly negotiated. The junior doctor assumed his role following implicit communication with the senior nurse, reading and responding to her actions.

Nurses in emergencies

As the above discussion indicated, under urgent conditions nurses too assumed roles according to their level of skill and experience. This was largely in response to particular patient situations, rather than on the basis of traditional jurisdictional concerns.

This lack of jurisdictional concern was revealed in nurses' own talk about their response to such situations. For example, when asked during an interview to comment about her role during situations in which urgent action was needed, Tracy, a junior nurse at Cityview ICU, stated:

> *Now I think about it, if something happens like that, people assume roles, they're not told, 'You do this, you do that' necessarily. I think when you learn to do say, life support, normally there should be someone who's more experienced, should say, 'Right, you do this, you do that, you do that' and they should be told what the roles are, but actually when it's happening, that doesn't really happen. It'll more sort*

of come up, Oh, this or that needs doing. Say if something happens there are certain roles that I am comfortable to take because I know them, so I'll often go towards those roles and be in control of those roles. I like to leave certain harder roles to people whom I feel, who have more experience. But if nobody else steps up then I will step up and do those roles if I need to, because someone needs to do them."
(Cityview ICU: Tracy, band five nurse)

As the above quote suggests, under conditions of urgent work, jurisdictional concerns made way for work processes that needed to be undertaken. Given nurses' ultimate concern for patient welfare, during life-threatening situations Tracy indicated that nurses focussed on what *'needs doing'*. Moreover, the above quote adds weight to the observation that nurses assumed roles according to their level of skill and experience. However, this also depended on the other nurses present and their level of skill and experience. More knowledge or technical skill-demanding interventions, Tracy argued, were left to the most senior or experienced nurses, while less experienced nurses assumed actions closer to their skill repertoire. This suggests that ICU nurses' experience was a determining factor in calibrating responses under urgent work conditions.

Tacit coordination of urgent work

Nurses' in-depth knowledge of patients and hands-on clinical experience in dealing with patient-related urgent situations enabled them to act with greater confidence and assume roles beyond their typical jurisdiction. The division and assimilation of roles was not decided *a priori* but achieved dynamically through the interaction of individuals *in situ* and in the moment. To illustrate these points, a detailed extract from the fieldnotes representing a typical response relating to a sudden patient deterioration is analysed.

The event in focus here was recorded on the afternoon shift at Cityview ICU. Following a patient transfer to the ICU, two nurses were concerned with connecting various monitoring and drug administering devices on the bedside terminals while two junior doctors were at the nurses' station for a handover. The event commenced as follows:

I stood at the back end of the nurses' station observing the two junior doctors in front of me, Desmond (SpR) and Rose (SHO), discussing the admitted patient's medical history. I turned to look at the patient's monitor, at bed space three, and I noticed the patient's heart rate; 31 bpm. I heard the two junior doctors discussing 'he has been bradycardic...' Anthony (band seven nurse) adjusted some settings on the monitor. I noticed Carroll (band six nurse) placed an I.V. infusion on a stand. I turned to my notepad to make sure my scribbling was legible when an alarm sounded unlike anything I had heard before – louder with a much quicker rhythm, like a fire alarm. I turned my head up and looked at the monitor – it read ASY (asystole) with a very large font that covered most of the screen while continuously flashing with a dark red background.

(Cityview ICU: 101)

At this moment, the monitor alerted to the sudden deterioration of the patient whose heart had stopped beating. The alert was the first signal to this situation of sudden patient deterioration and the driver to the subsequent work process to revive the patient.

As the extract continued below indicates, the nurses' responses to the alarm were different from those of junior doctors. The nurses' reactions were immediate, showing a keen sensitivity to the alarm and its potential consequences, and involved them assuming appropriate work roles. The careful choreography that followed between the nurses suggests an expert and textured knowledge of the appropriate trajectory of action and with each other's actions.

Initially, nurses did not take the alarm at face value, but instead turned to look at each other. This exchange of looks served to validate the emergency and the need for action, through which the division of roles was initiated. In contrast, junior doctors did not take notice of the alarm nor of the interaction that was underway a few steps in front of them. They therefore did not engage with the event until the nurses had already initiated the process. The event unfolds in the following fieldnote extract and illustrates these points:

Anthony stood still and turned to look at Carroll. They both spent a brief moment looking at the monitor, then back at the patient, back at the monitor. They looked at each other and then Carroll moved quickly to the top of the bed and lowered it flat while Anthony got his gloves on. I turned to look at the junior doctors; they continued discussing the patient without turning to look at the monitor or at the patient or around them – they looked straight down into the patient's folder. I heard Carroll saying 'Guys, we need a hand here'. I noticed absolutely no response from the doctors. The monitor still flashed ASY along with the alarm. Carroll then repeated with a firm tone of voice: 'Guys!'.

(Cityview ICU: 101)

The above extract reveals the tacit exchange of interactive cues that enabled seamless and coordinated action. As the above extract shows, while there was no verbal exchange between the two nurses they proceeded to take on complementary roles in preparation for the patient's revival. The division and assimilation of roles was shaped by each nurse observing and reacting to their colleagues' actions. In particular, having noticed Carroll assuming position to support the patient's airway, Anthony reacted by getting ready to assume a different but complementary role of preparing to draw drugs and potentially do chest compressions. The collaborative act was guided by both nurses having an understanding of the likely trajectory of actions that should ensue while remaining keenly attuned and responding to each others' actions.

Moreover, in response to the junior doctors' disengagement with the situation, Carroll issued an explicit verbal request for support, followed by a second more intense call. Here, the urgency of the situation legitimated the nurses' assertive stance in explicitly requesting for the junior doctors to approach.

Furthermore, the collaborative act was not only accomplished as a result of the interaction between the immediate professionals. Other staff not directly involved with the incident contributed in ensuring a smooth operation. The extract continues to show the reaction of a nearby nurse to the incident:

Kate (band five nurse) moved quickly from her bed space (six), grabbed the 'crash trolley' positioned opposite to the front and left of her bed

space with her right hand, pulled it towards her, turned round clockwise to position herself behind the trolley, and then pushed it towards bed space three. She positioned it close to the bed space, just to the left corner, then had a quick look at the people around the patient (now five as the two doctors joined Carroll's call), and returned to her patient in bed space six while turning her head and taking a final glimpse back at them.

(Cityview ICU: 101)

Kate's action in the above extract suggests a sensitivity to the likely trajectory of the resuscitation process and lends weight to the observation made in Chapter Seven concerning the exercise of 'global view' and 'stepping in'. In particular, she noticed the incident unfolding, anticipated the need for the resuscitation trolley and stepped in to provide this thus supporting her colleagues. This was done subtly and unobtrusively, but the action was significant in the successful execution of the resuscitation process. The event continued with the involvement of the junior doctors who engaged in a process already initiated by the nurses:

I then saw Carroll holding a mask on top of the patient's face; Anthony moved back from the patient and grabbed some vials and syringes. Desmond moved next to Carroll while Rose looked closely at the monitor. Patrick (junior doctor, SHO) also joined them and closed the curtains behind him.

(Cityview ICU: 101)

In the incident examined here the senior ICU nurses assumed most of the hands-on clinical work with the junior doctors remaining in a supporting capacity. This was likely due to the two nurses being more experienced in dealing with such incidents than the junior doctors. The nurses' behaviour in this incident contradicted the earlier re-intubation example, in which the nurse supported the junior doctor. The skills required in this scenario were well within the nurses' repertoire, and outside that of the junior doctors, which enabled nurses to legitimately assume a leading role.

Unexpectedly, jurisdictional concerns between professional groups in ICUs appeared to be momentarily suspended during conditions of urgent work. In such instances,

nurses and doctors were more focussed on the coordination rather than division of work. Under urgent work conditions, ICU doctors and nurses coordinated their individual contributions to actual patient care *in situ* and in the moment. Such coordination was nevertheless tacit and interactional, rather than discursive.

This finding lends weight to and substantiates Prowse and Allen's (2002) conclusions from their interview-based research. In that study, nurses reported that in routine PACU work they used tact and diplomacy in their interactions with doctors; however, during moments of crisis they discussed being more assertive and even initiating treatment irrespective of whether doctors were supportive. In such moments, Prowse and Allen argued, the urgency of the situation and the threat of patient death created a 'negotiation space' through which nurses could cross their typical jurisdiction. Although Prowse and Allen remained cautious of their conclusion given the retrospective nature of their data (nurses' recollection of events), this appears to be supported by the observational data of the current study.

Additionally, in ICUs, seniority and expertise were the determining features of the distribution of work under urgent conditions. Consultants appeared content with an experienced nurse attending to an urgent situation without explicit instruction, while being more direct and instructive in interactions with junior nurses. Under urgent conditions, senior nurses took more initiative when junior doctors were involved but also appeared to be supportive to junior doctors when the required skill (e.g. intubation) lay outside their technical abilities. Under urgent conditions, a skill-based division of labour was in operation in which professionals undertook whatever work needed doing within their sphere of competency.

During such work, professionals demonstrated a heightened sensitivity and responsiveness to their colleagues' actions, facilitated by a familiarity with the common process to be followed, such as the resuscitation process. Similarly with previous workplace studies (e.g. Heath and Luff, 1992; Hindmarsh and Pilnick, 2002), these provided a critical resource for professionals to coordinate and organise their work seamlessly and often without words. Findings from the current study lend support to Hindmarsh and Pilnick's (2002) findings from pre-operative work in which sequences of action and the ways in which they can be read as projecting subsequent

action by other professionals served as a collaborative resource among anaesthetic teams. The instances of urgent work witnessed in the ICUs also lend weight to arguments that the knowledge that experienced practitioners draw on in particular instances of coordinated work is not to be found exclusively in training manuals or other formal descriptions of work, but rather, such work is also actively accomplished between professionals through the reading of and responding to each other's actions (Heath and Luff, 1992).

Evidence from the current research illustrates how the actual division of labour and coordination of work under urgent conditions is not scripted, but instead is decided in the moment. Jurisdictional ambiguities notwithstanding, it is the actual issue at hand that appears to shape the division of labour. In this context, skill and prior experience of working with colleagues appear to be key interactional resources that influence individual professional standing.

There is an emerging literature on flattening of hierarchies for patient safety purposes that is also relevant here (Cosby and Croskerry, 2004; Ovretveit, 2009; Mackintosh and Sandall, 2010; Gilardi *et al*., 2013). It has long been known that healthcare practice may be negatively affected by what has been described as the 'authority gradient', which refers to the steepness of hierarchy or difference in experience, perceived expertise, or authority between professionals in a given situation (Cosby and Croskerry, 2004). In particular, because of the strict hierarchical nature of hospital work, professionals of differing levels of professional stature and seniority, expertise or experience are often required to come together in an *ad hoc* manner and provide coordinated care. While in most cases health professionals appear able to deliver care despite the strong presence of hierarchies, evidence also suggests that as the authority gradient increases so does the number of adverse patient safety incidents, including medication errors and care omissions (Cosby and Croskerry, 2004).

It has been suggested that those lowest in the hierarchy can be hesitant to speak up in the presence of higher ranking professionals in order to provide input, contribute to care, make recommendations or point out mistakes; flattened hierarchies are therefore strongly advocated in healthcare as a means of improving patient safety (Ovretveit, 2009). In this context, standardised communication procedures and

protocols have been argued to act as objects that can transcend disciplinary boundaries and enable a flattening or softening of professional hierarchies (Mackintosh and Sandall, 2010). However, research continues to reveal that authority gradients are still very much present in hospital settings. For example, in an ethnography of Emergency Departments (ED) in Italy, conflict and disagreements arose between doctors and nurses as the former appeared to exclude the later from contributing to decision-making and were found to be resistant to unsolicited advice (Gilardi *et al.,* 2013). In that study, such actions by ED nurses were perceived by ED doctors as invasive and they reacted by trying to limit and contain the scope of nurses' actions. These findings from ED are consistent with conclusions reached by studies in operating, anaesthesia and recovery units (Goodwin et al., 2005; Fin, 2009).

Although in the current study in ICU examples suggesting the presence of an authority gradient between doctors and nurses were also identified, the findings concerning work under conditions of urgent work contrast with the wider literature. The reasons for this difference are twofold. Firstly, previous observational research in healthcare settings did examine practice throughout the spectrum of work from routine to urgency, and therefore it is not clear whether the professional conflicts such research identified during routine practice persisted or were suspended as work urgency built up, as was the case in the current study. Secondly, it is likely that the authority gradient between doctors and nurses in ICUs was not as great as in other hospital areas; this is because most ICU nurses were experienced clinicians with advanced knowledge of life support while most junior doctors were only on rotation to the ICU and were less familiar with this specialism. What is significant here is that the successful resolution of patient-related emergencies in the ICUs studied was noted to largely occur within what appeared to be a flattened hierarchy where jurisdictional concerns were, at least temporarily, suspended. However, evidence from the current study also indicate that while a flattened hierarchy was useful in the resolution of patient-related issues under urgent conditions of work and when experienced staff were involved, when more junior staff were involved a hierarchy was appealing as junior staff turned to and relied substantially on their seniors for support. In the current study, therefore, a flattened hierarchy was not pervasive or required in all

instances of work but mattered most under urgent conditions where experience and skill took primacy over jurisdictional concerns.

Summary

The findings examined in this section provide an additional dimension to Abbott's (1988) theoretical model by illustrating how the tensions surrounding jurisdictional claims making are translated into work and especially under urgent conditions. The study's findings indicate that the urgency of the situation at hand left little room for professionals to express the kind of jurisdictional disputes theorised by Abbott. In addition, the findings shown here also revealed little signs of negotiating activity (Strauss *et al.,* 1964) even when nurses' actions stretched their typical jurisdictions. This finding lends support to Allen's (1997) argument about the non-negotiated order of healthcare practice whereby the division of labour can be accomplished even in the absence of face-to-face negotiation. While work under urgent conditions may not be a feature of many workplaces, it is a key feature of ICU work analysis of which has generated useful insights about the tacit coordination of collaborative work. This additional dimension extends the reach of Abbott's model into critical and urgent work environments and highlights the conditions under which jurisdictions can shift and be suspended.

Conclusion

In this chapter the position of doctors and nurses in the ICU division of labour was examined as the core professionals involved in the delivery of patient care in this clinical setting. The ICU consultants were found to retain ultimate clinical authority in this setting with nurses' work remaining largely under the consultants' control. Consultants actively maintained this authority, deflecting challenges raised by nurses. Despite this, nurses were found to resist medical instruction where this was perceived to threaten the patient's comfort, safety or quality of care. Nurses' claims over aspects of patient care decisions were upheld where nurses' intimate and intricate familiarity with their patients' conditions provided relevant legitimation.

The exigencies of the ICU setting enabled certain jurisdictions to be shared between consultants and nurses while others were kept firmly under the consultants' control.

Nurse seniority and experience were shown to be key issues in shaping interactions with doctors. Senior nurses overtly engaged consultants in patient care discussions with junior nurses remaining hesitant. Junior doctors overall held a less powerful role than consultants, owing to their lack of experience and exposure to this specialised hospital setting.

Under urgent conditions health professionals were not preoccupied with the division but rather with the coordination of work. Such coordination was nevertheless tacit and interactional, rather than discursive. The division of labour between doctors and nurses under urgent conditions in ICUs was accomplished through a process of non-verbal interaction, based on individual levels of clinical skill. Within the restriction of their profession, doctors and nurses in the ICU assumed requisite roles, while hierarchical relations and jurisdictional concerns were suspended. Since bedside-related skill appeared to be the legitimating force in moments of urgent work, nurses appeared to hold a firmer position in the division of labour.

ICU doctors and nurses, however, were not the only health professionals operating in the ICU. Their work was supported by allied health professionals, and in particular pharmacists and physiotherapists. While allied health professionals were less involved in patient care than doctors and nurses, their input was nevertheless significant. The next chapter examines the position of allied health professionals, in particular pharmacists and physiotherapists, in the ICU division of labour *vis-à-vis* doctors and nurses and their contribution in accomplishing the day-to-day delivery of ICU work.

Chapter Nine: The Contribution of Allied Health Professionals to ICU Work

In the previous chapter, the professional boundary between doctors and nurses in ICUs as the core professionals in delivering patient care in this setting was examined. Unlike the supportive structure identified to be in operation intra-professionally among nurses, inter-professionally between doctors and nurses in ICUs conflicting views were noted to challenge typical professional boundaries. Doctors' and nurses' work was supported through a strong presence of allied health professionals; pharmacists and physiotherapists in particular. However, little research attention has been given to these professionals. This is concerning because of the vital role these professionals play and the contribution they make in the delivery of patient care in ICU, where recovery depends on a complex medication regime and healthy lung function to enable independence from ventilator support. In addition, given these professionals are relatively new actors in the ICU it is important to understand the extent to which they have been accommodated in the division of labour and how potential jurisdictional disputes were managed in day-to-day practice. This can inform the development of future workforce policies as well as the organisation of work among health professionals in the ICU.

Existing ethnographies of ICUs (e.g. Zussman, 1992; Coombs, 2004; Carmel, 2003; 2006) focussed exclusively on doctors and nurses, and appear to have overlooked allied health professionals. Zussman (1992) in particular made no reference to allied health professionals, neither pharmacists nor physiotherapists, in his ethnographic study of two North American ICUs. In the UK, in her ethnography of three ICUs, Coombs (2004:59) acknowledged that the units she studied were 'serviced by physiotherapy with specific pharmacy support' but then did not examine the contribution of these professionals in detail. The only reference to pharmacists in Coombs' study was to report that they monitored the stock levels of drugs in the ICUs and liaised with senior nurses about the units' drug-related needs and supplies. Similarly, Carmel (2003) identified that pharmacists and physiotherapists were 'routine visitors' to the ICUs he studied but their interactions with doctors and nurses

were not the focus of his analysis. Carmel did not appear to identify pharmacists to have a role in monitoring stock levels and supplying relevant drugs to the ICUs, but did identify that pharmacists had a role in checking the prescriptions for accuracy and interactions with other drugs. Carmel identified limited interaction between doctors and pharmacists, identifying this as short and perfunctory, based on information exchange. The scientific knowledge base of pharmacology, he argued, rendered the pharmacist's contribution to the ICU 'technical, routine and unproblematic' (Carmel, 2003:136). While pharmacists did have some mention in Coombs' and Carmel's studies, physiotherapists had none.

A likely reason for the lack of focus on allied health professionals in previous ICU ethnographies may lie in the time period during which these were undertaken: Coombs' ethnography was completed in 2000 while Carmel's was done in 2003. As examined in Chapter Two, although the reorganisation of ICUs in the UK was the result of the DH (2000b) report 'Comprehensive Critical Care', the recommendation for greater involvement of allied health professionals was actually highlighted in the follow-up DH (2005b) report, 'Quality Critical Care'. Here, the work of allied health professionals such as pharmacists and physiotherapists was highlighted as fundamental, although overlooked. Moreover, in that report there was a firm recommendation for 'the development of existing health professional roles into areas beyond traditional boundaries' (DH, 2005b:18), giving as an example the prescribing of medication by professionals other than doctors (e.g. pharmacists). The effects that the DH (2000b; 2005b) policy changes have had, if any, on allied health professionals in ICUs remain unclear. This suggests a gap in knowledge about how health professional work is organised and delivered in ICUs, which hinders the development of refined policies and practice recommendations in this setting.

Abbott (1988) argued that such policies can affect professional work through the opening or closing of areas of jurisdiction, although ultimately any effect must be propagated in the workplace through professional interaction. Given that Abbott presents jurisdictions as exclusive, the introduction of new actors into a system of work is expected to give rise to inter-professional jurisdictional dispute and competition in the workplace. The aim of this chapter is to draw from Abbott in order

to examine the role and contribution of pharmacists and physiotherapists in ICUs through analysis of the boundaries between these health professionals and doctors and nurses. Initially, the perceived role and position of pharmacists and physiotherapists in ICUs is examined, followed by an examination of the contributions of both groups in the delivery of ICU care and the way in which relationships and tensions with doctors and nurses were managed in day-to-day practice.

The work of peripheral professionals in ICUs

Clinical pharmacists and physiotherapists mainly supported particular therapies and aspects of the work of doctors and nurses, having less oversight of overall patient care. Consequently, they spent less time in the ICUs than did doctors and nurses. These telescoped and temporal features of their work are what characterised these allied health professionals as peripheral members of the ICUs. In this section, the position of these professionals in the ICU division of labour is examined.

ICU pharmacists

As treatment in intensive care was heavily dependent on drug prescription and administration, the pharmacists held a key role. However, compared to ICU doctors and nurses, the pharmacist's role is a recent development in intensive care, with only about 60% of ICUs in Europe employing one (Horn and Jacobi, 2006). Following the DH (2000b; 2005b) modernisation policies for ICU, pharmacists were supported to have a more advanced role and presence in the ICU; an explicit recommendation was about the development of non-medical prescribing. A legislation that followed enabled appropriately trained pharmacists to become independent[7] and supplementary[8] prescribers (NHS, 2006). However, because a prerequisite for independent prescribing is the ability to competently undertake a clinical assessment and make a diagnosis in order to be able to treat conditions (NHS, 2006) pharmacists in ICU remain supplementary prescribers. This is because ICU patients' conditions are complex:

[7] Independent prescribing refers to prescribing by a practitioner responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing.

[8] Supplementary prescribing refers to a voluntary prescribing partnership between an independent prescriber (e.g. doctor) and a supplementary prescriber (e.g. pharmacist), to implement an agreed patient specific clinical management plan.

patients are critically ill; can have several underlying diseases; and are admitted to ICU from a variety of specialties leading to a varied case mix. In this sense, pharmacists in ICU can extent and modify existing medical prescriptions but not independently prescribe care themselves. Therefore, from a legal standpoint, the jurisdiction over prescribing in ICU remains within the remit of the consultant.

In Riverview North and South ICUs there was a team of pharmacists, consisting of a dedicated senior consultant pharmacist supported by two junior pharmacists who were on rotation to the ICUs. In contrast, Cityview ICU employed just one pharmacist who was dedicated to the unit. The role of pharmacists in the ICUs was similar across sites, although the consultant pharmacist at Riverview North and South also had responsibility for supervising the two junior pharmacists.

Pharmacists across the three ICUs reported that they aimed to attend and contribute to the ICU ward round regularly, although during the research this was found to be rather infrequent. At Cityview ICU, the pharmacist attended the ward round about thrice weekly, mainly when there was a new patient admission or when a particular prescription needed clarifying. At Riverview North and South ICUs, the consultant pharmacist only rarely attended the ward round and on those occasions only joined in for particular patients who, for example, were not responding to treatment. Here, it was mostly the junior pharmacists who attended the ward round regularly, but rarely stayed for more than two hours even though the ward round at Riverview South and North ICUs often took longer than this.

The pharmacists' contribution to day-to-day ICU work was not always obvious. Although pharmacists were indeed observed to be present in the units, at times, they rarely contributed overtly to patient care discussions, for example during the ward round. During an early field visit observing the ward round at Riverview South ICU, the following entry was made in the fieldnotes:

> *The ward round today ended with the last patient on bed space 28. As before, the consultant led and the junior doctors followed. The junior pharmacist stayed with the ward round until the end but she remained at the back – her role is still unclear as she didn't speak a word throughout.*
> (Riverview South ICU: 15)

Pharmacists' care priority

The pharmacists reported to be primarily responsible for reviewing the ICU patients' medication charts in order to ensure accuracy and safety of prescriptions. Based on these, they dispensed necessary medications to the ICU and ensured the unit's pharmacy remained stocked. For example, the pharmacist at Cityview ICU (Jill) commented about her role at the unit:

> *Jill: I am basically here five days a week, checking the stock list, if there is insufficient stock I order some more for the unit. Ehm, helping with the prescriptions, monitor medications, those sorts of things.*
> (Cityview ICU: 77.1)

Contrasting the apparent task-orientated role suggested in the above quote by the pharmacist at Cityview ICU, the consultant pharmacist at Riverview South and North ICUs (Julie) described her role within a wider objective. In particular, she discussed the role of the pharmacist in ICUs as providing a broader supportive system for the safe use of drugs:

> *What we try and do is provide a supportive system to allow the doctors and nurses, everyone in ICU to use drugs more safely when people are very sick. So that involves guideline drawing up, setting meetings, research projects and supervising junior staff. If any of them have got a patient that they'd like me to go and see or do some teaching I usually go up then in the afternoon.*
> (Riverview South ICU: Julie, consultant pharmacist)

As the above quote indicates, medication safety was the consultant pharmacist's overall priority in ICUs. Given that patient treatment in ICUs to a large extent relied on life-saving medications, such as sedation, antibiotics and blood pressure controlling drugs, the pharmacists' remit appeared key.

Doctors' perceptions of pharmacists

ICU doctors and nurses held varying views about the value of the role of pharmacists in ICUs. For example, when a medical consultant at Cityview ICU was asked to comment on the pharmacist's role in the unit he responded with:

Mark: Yes, a pharmacist, who comes in and helps with the pharmacy.

(Cityview ICU: 55)

The above comment suggests a disinterest by the consultant in the pharmacist's role. Across units, medical consultants admitted that the pharmacist's role was useful for checking the prescriptions and dispensing medications, but did not comment in detail on the pharmacist's role in ensuring medication safety, which from a pharmacist's perspective was a key element of their role. The medical consultant appeared to view the pharmacist's role to be less autonomous than how the consultant pharmacist perceived it. The disinterested comment suggests that the pharmacists were perceived to mainly take on a supportive role to the medical consultant ('*helps with the pharmacy*'), as opposed to having their own unique contribution.

The extent to which the medical consultants viewed the pharmacist's role as more or less autonomous differed between Riverview and Cityview ICUs. In particular, while neither the pharmacists at Cityview ICU nor at Riverview ICUs exercised independent prescribing, the consultant pharmacist at Riverview North and South ICUs did amend or extend medical prescriptions for routinely used drugs. The medical consultants at Riverview North and South ICUs appeared to be comfortable with this extended role of the pharmacist, but mainly because they perceived themselves to continue to hold ultimate authority over patients' prescriptions. For example, in his interview the lead medical consultant at Riverview South ICU commented:

So the pharmacists will go round and check the prescriptions, and if anything needs changing they will tell us, or they will do it and tell us.

(Riverview South ICU: Peter, medical consultant)

As the above comment suggests the medical consultants at Riverview ICUs afforded the pharmacists an element of autonomy, but only when this remained within their overall authority, as indicated by the medical consultant highlighting that any changes to the prescriptions were supplementary and needed to be communicated to them.

Nurses' perceptions of pharmacists

In contrast to ICU consultants, nurses across the units appeared to be more positive and supportive of the pharmacists' role. In an interview with a junior nurse at Riverview North ICU, she reported:

> *On the ward rounds we usually have an ICU pharmacist that comes round so you can coordinate with them if you have got any queries about drugs, stock levels, any problems with drugs, and they will organise things for you. And, because they are on the round you could get a lot of knowledge and information from them.*
>
> (Riverview North ICU: Louise, band five nurse)

Similarly at Cityview ICU, a sister was rather enthusiastic about the unit's pharmacist. In her interview she reported:

> *The pharmacist, she is superb, she is in there. She's so unassuming, but she'd be in there, she'd know the patients inside out, she'll come up before the ward round starts almost at 8 o'clock to know all what the drugs are so that she knows what drugs everyone's been on for how long. You can ask her anything and she'll come back to you with the information. She is very keen on education, problem solving, because drug errors for example are one of our highest incidents, although minor ones, so she is very involved in that. Good working relationships with all levels of staff, everyone knows who she is, she is here every day. And she is effective, I mean that may be because she is a good pharmacist but that's the role we have so she plays a really vital role.*
>
> (Cityview ICU: Judith, band seven nurse)

Therefore, the key and most valued contribution of the pharmacist's role, according to the Cityview ICU sister, was with regard to supporting staff with avoiding drug errors and answering nurses' queries on aspects of the patients' drug treatments. It was mainly for this reason that many bedside nurses, both at Cityview and Riverview ICUs, valued the pharmacists' role. When asked during interviews to discuss the pharmacists' contribution to their work, two nurses at Riverview ICUs reported:

Yes, occasionally there is a pharmacist that will go round and will act as an information source about drugs and they will independently review the drug chart.

(Riverview South ICU: Tim, band six nurse)

The pharmacists' role is very useful as they provide information for doses, times and appropriateness of medications.

(Riverview North ICU: Valerie, band five nurse)

In addition to pharmacists being an '*information source*' about drugs, another likely reason that accounts for the nurses' positive perceptions of the role and value of the clinical pharmacist was that nurses and pharmacists had a complementary and shared concern with medication management. Moreover, the work of both professional groups depended to an extent on the decisions of the ICU consultants. As is revealed in the later part of this chapter, this enabled nurses and pharmacists in ICUs to develop a professional alliance.

Abbott (1988) theorised jurisdictions in the workplace to be in perpetual dispute as rival professions compete for control over aspects of work, such as the prescribing of medications. On the surface, ICU professionals here did not talk about a competitive atmosphere in the unit although they saw the role of pharmacists differently. While doctors showed a disinterest in pharmacists, nurses indicated they valued and supported the pharmacists' role. Abbott's focus on competition, however, does not allow him to consider the possibility of coalition building across professional groups. The way in which these dynamics between doctors, nurses and pharmacists played out in day-to-day practice is examined later in the chapter where Abbott's view is revisited.

ICU physiotherapists

The acknowledgement of the pharmacists' clear role and contribution in the ICUs, by consultants and particularly by nurses, can be contrasted with the limited acknowledgement that the physiotherapists were afforded in the ICUs. In this section, the role of the physiotherapists in the ICU is examined and the extent to which this group exercises a distinct contribution to the ICU work critically considered.

Cityview, Riverview North and South ICUs all had regular physiotherapists. At Riverview North and South ICUs there was a permanent consultant physiotherapist and a senior physiotherapist dedicated to the two units, who were supported by a team of four more junior physiotherapists who were on either a three- or six-month rotation there. Most of the routine physiotherapy on the ICUs was undertaken by the junior physiotherapists, which the senior physiotherapists oversaw. In his interview, the consultant physiotherapist explained:

> *We have a team of six physiotherapists and we staff it so that is there a band five physio (physiotherapist) and a band six physiotherapist on each ICU. So they are essentially the ones that do the most clinical work. The more senior physiotherapists, myself and my band seven, we will then target patients on the basis of the feedback that we get.*
> (Riverview South ICU: David, consultant physiotherapist)

In contrast, at Cityview ICU the physiotherapists did not exclusively work on the unit. They were part of the hospital's physiotherapy service, attached to the hospital's respiratory ward, and oversaw patients throughout the hospital including the ICU. At Cityview ICU, there were four physiotherapists who visited the unit in turns who were overseen by a senior physiotherapist; however, the senior physiotherapist was never actually witnessed working with patients in the ICU.

Although they were attached to the ICUs, physiotherapists at Riverview ICUs did not participate in or contribute to the medical ward round, claiming they did not have capacity to do so. Instead, they used the list of ICU patients to identify their own priorities with regard to patient care. This, the physiotherapists argued, limited their involvement with other health professionals and excluded them from the decision-making process. In particular, the consultant physiotherapist at Riverview South ICU stated:

> *It is difficult to sometimes feel that we are part of the team because you will almost feel we act semi-autonomously and then liaise with the medical staff as required through the day but not, we are never really formally there at the bedside at the ward round when the decisions are made about the patient's care for that period of time. That is an aspect that I would love to be part of our*

role, but we just don't have the capacity. We wouldn't be able to treat the patients.

(Riverview South ICU: David, consultant physiotherapist)

The physiotherapists at Cityview ICU, similar to Riverview ICUs, were never seen actively contributing to the discussions with medical consultants but unlike Riverview ICUs one physiotherapist did join the morning ward round every other day, mainly to catch up with patient progress and the medical treatment plans. Despite these differences in the set-up at Cityview and Riverview ICUs, the role of physiotherapists in relation to patient care appeared similar across sites.

Physiotherapists' care priority

The physiotherapists primarily aimed to support patient recovery in the ICU mainly through the improvement of patients' respiratory and muscle capacity. A junior physiotherapist at Riverview North ICU explained:

The physiotherapy team is responsible for a couple of things really. One is getting all of the patients in the ward moving in whichever way they can be moved. So the ventilated patients we go round and make sure their muscles are kept long so they are not getting any contractions. So we go around and do passive movements, with all the ventilated patients who are sedated and can't move themselves. And the other part of it is being responsible for chest manual therapies, so anybody who's got chest infections or any form of lung problems we will go round and assess their chests through auscultation and then treat them with manual techniques and suctioning.

(Riverview North ICU: Katherine, band five physiotherapist)

As the above quote suggests, chest infections and respiratory function were key priorities to which physiotherapists were attentive. In this regard, the physiotherapists' role to support patients' lung function is most akin to the consultants' priority of patient independence from life-support machines such as ventilators.

Physiotherapy work across the ICUs appeared to be largely supportive and complementary, but not distinct from medical treatment. The same physiotherapist continued:

> *When I'm working I want to, yeah, maximise their (patients') medical management by making the patient stronger, so that [they can be] as strong as they can be to their medicines and [so that] everything can work and [they can] get out of hospital quicker.*
>
> (Riverview North ICU: Katherine, band five physiotherapist)

In the above quote, the physiotherapist indicated that similar to medical consultants, they appeared to have patient independence from the ventilator and ultimately discharge as top priority. Consequently, physiotherapists in intensive care largely took their lead from and organised their own work around the medical consultants' medical treatment plans.

Despite physiotherapists' and medical consultants' shared focus on patients' respiratory capacity, medical consultants maintained clear seniority over physiotherapists. For example, this can be seen in the way one of the junior physiotherapists at Cityview ICU viewed the medical ward round. When asked during an informal conversation about her view of this she stated:

> *Emmer: I think the ward round is such a good learning opportunity, to listen to the consultant and hear what they have to say about the medical care of the patient; it's a brilliant learning opportunity.*
>
> (Cityview ICU: 123)

As the above comment suggests, the physiotherapist appeared to clearly acknowledge the medical consultants' superiority of knowledge. This was a view shared particularly by junior physiotherapists, and especially at Cityview ICU where their role was less prominent compared to Riverview North and South ICUs. This was likely because the physiotherapists at Cityview ICU also looked after patients in other parts of the hospital and so spent less time in the ICU than physiotherapists at Riverview ICUs did; in addition, Cityview ICU did not have a consultant physiotherapist post.

Nurses' perceptions of physiotherapists

In contrast to the hierarchical relationship between physiotherapists and consultants, the professional relationship between physiotherapists and ICU nurses appeared less rigid. Physiotherapists worked closely with the bedside nurses in providing patient care, particularly with regard to chest techniques, exercises and suctioning.

The consultant physiotherapist at Riverview North and South ICUs also held training sessions for nurses on aspects of ventilation. When asked about the physiotherapists' role at Riverview South ICU, a senior nurse reported:

> *They are permanent physiotherapist staff, and they are great, and often teach nurses formally in sessions.*
>
> (Riverview South ICU: Tina, band seven nurse)

The working relationship of physiotherapists and nurses across sites also appeared interdependent. Nurses at Riverview North ICU, for example, commented about their interactions with the physiotherapists:

> *The physios will need an update on what's been happening over the last few hours and what my findings had been in the morning particularly for suction and obviously respiration and mobility and so on, which I can fill them in before they do their assessment and they can make a bigger picture of what's going on.*
>
> (Riverview North ICU: Jacqueline, band seven nurse)
>
> *For example, the physio came around and I had listened to the patient's chest before she had listened, shared our information and decided where we should turn him.*
>
> (Riverview North ICU: Valerie, band five nurse)

Despite the largely hierarchically flat relationship between physiotherapists and nurses, physiotherapists were still required to firstly liaise with the bedside nurse concerning any interventions they needed to undertake with their patients. A charge nurse at Riverview North ICU commented:

> *Physiotherapists, they will go on their round and will liaise with the nurse at the bedside especially, and together ideally will do the particular treatment on the*

patient at that time and occasionally they'll tell the nurse in charge.

(Riverview North ICU: Damian, band seven nurse)

Physiotherapists were not only expected to negotiate with the bedside nurse concerning their interventions, but also often needed to inform the nurse in charge regarding any concerns they had about a patient's progress. Moreover, further to simply reporting and liaising with nurses, some nurses indicated that the way in which physiotherapists organised their work with patients heavily relied on the bedside nurse. In an interview, a junior nurse at Riverview South ICU explained:

The physio team come in the morning and they go around and assess the patients and would generally come and ask you if you have got any particular concerns and they will organise their work according either to what you have got to say or you just have a general discussion.

(Riverview South ICU: Mari, band five nurse)

Overall, physiotherapists in the ICU did not appear to have an exclusive jurisdiction over a particular aspect of patient care. Rather, physiotherapists' main role in the ICUs studied was largely concerned with undertaking maintenance work with ICU patients and assisting the work of the doctors and nurses in the delivery of patient care.

Physiotherapists in ICU did not hold a distinct jurisdiction with regard patient care in ICU and instead mainly acted under the direction of the medical consultants. Because physiotherapists did not have a distinct area over which to compete with medical consultants, their jurisdiction in ICU *vis a vis* doctors was settled through what Abbott (1988) described as control subordinate to another profession. In contrast, the jurisdictional boundaries between nurses and physiotherapists were not distinct as they shared a jurisdiction over patient mobilisation. Abbott theorised that clinical exigencies can require professions to have shared control over certain jurisdiction; this is especially relevant in busy workplaces such as ICU. Despite nurses and physiotherapists sharing jurisdiction over this aspect of work, they did not talk about being in competition as would be expected following Abbott. However, during day-to-day practice areas of contestation were noted and are examined later in this chapter.

Summary

Pharmacists, although a relatively recent development in ICUs, appeared to hold a firm position in the ICU. Although medical consultants appeared rather indifferent about pharmacists, nurses were particularly supportive of their role. In contrast, although physiotherapists also held a role in the ICU, their professional contribution did not appear to be as clearly acknowledged. Following Abbott (1988), competition between new and established actors in ICU over work jurisdictions was expected to be high. This is because doctors' and nurses' established jurisdictions in ICU could be challenged by the entrance and advanced roles of pharmacists and physiotherapists. On the contrary, professionals' accounts of their role in ICU did not allude to competition being pervasive. However, the jurisdictions over prescribing and patient mobilisation were identified as potentially challenging areas for day-to-day practice since these were discussed as within the remit of more than one professional group. These become more obvious when examining the ways in which pharmacists and physiotherapists managed to organise and accomplish their work during day-to-day practice; the focus in the following section.

Pharmacists' and physiotherapists' contributions in day-to-day practice

In day-to-day practice, allied health professionals, similar to nurses, were witnessed making occupational claims often into aspects of the traditional medical domain. This was particularly obvious at Riverview North and South ICUs. This was largely attributed to the fact that Riverview ICUs had established, dedicated pharmacist and physiotherapist teams, who were actively involved in the delivery of patient care. In addition, unlike Cityview ICU, Riverview ICUs also had consultant pharmacist and physiotherapist posts. In the following section, data from all three units are examined and differences between units highlighted. Between the pharmacist and the physiotherapist, the role of the former emerged as the most established in intensive care and is examined first.

The jurisdiction over prescribing

While responsible for ensuring the safety of prescriptions, and while having prescribing rights as supplementary prescribers (DH, 2006; NHS, 2006), the

pharmacists in intensive care accepted that the medical consultants 'owned' the prescriber role. Characteristically, a pharmacist at Riverview South ICU commented in her interview:

> *Although we can all prescribe, we just tend to do that for amendments really, because actually I think if you take the role away from the doctors that it kind of, I'm not quite sure, it dilutes it.*
> (Riverview South ICU: Judy, pharmacist)

As the above quote indicates, Judy openly acknowledged the limits of the pharmacists' role in terms of checking but not shaping patients' prescriptions. She also appeared to suggest that prescribing was a role pharmacists could potentially claim as their own, taking it '*away from the doctors*', but they consciously chose not to do so. Here, Judy indicated that pharmacists consented to sharing this role with doctors, thus suggesting a shared jurisdictional boundary between doctors and pharmacists in ICUs.

Despite the pharmacist claiming a shared authority over the prescribing role, ultimately the medical consultants' superiority of clinical knowledge, which extended beyond the prescribing element, was openly acknowledged. For example, the consultant pharmacist at Riverview South ICU admitted during her interview:

> *I think the thing is, and I'm a consultant pharmacist, but I don't understand the medical intricacies of the patient.*
> (Riverview South ICU: Julie, consultant pharmacist)

The consultant pharmacist in the above quote appeared to be aware of the limitations of her role and was rather reserved in claiming the prescriber's role in full. Here the consultant pharmacist appeared to suggest complementarity of roles between doctors and pharmacists in ICUs, although acknowledged the medical consultants' wider spectrum of knowledge regarding a patient's condition.

ICU doctors, and medical consultants in particular, appeared to welcome the pharmacists' extended role but only to the extent that it did not challenge their overall authority. A medical consultant at Riverview South ICU explained the role of the pharmacist in terms clearly reflecting a subordinate view:

We have for instance pharmacists who are dedicated to our ward, intensive care, who have prescribing rights and will go through and check that everything's written up and will come and ask us, or say to us, if they have to make changes and so on.

(Riverview South ICU: John, medical consultant)

Here, the medical consultant appeared to perceive pharmacists as merely providing a checking service for doctors, while any potential changes needed to be communicated and approved by the doctors themselves. In this way the consultant, while allowing an aspect of the role to be shared with pharmacists, ultimately maintained authority over clinical decision-making. More than a mere safety system, however, pharmacists across the three ICUs actively monitored medical prescriptions and amended these in accordance with what they perceived to be safest or in the best interests of the patient. Such amendments mainly concerned changes in dosage or route of administration for drugs that were not optimally absorbed by patients. Although such changes were indeed communicated to the consultants, permission to alter a prescription was not always explicitly sought.

While the pharmacist at Cityview ICU was noted on occasions to propose or discuss such amendments with doctors and nurses, she was less overt in doing so and did not openly discuss this aspect of her role. This can be contrasted with the consultant pharmacist at Riverview North and South ICUs who was more open about this aspect of her role. This was likely a reflection of the relative difference in seniority between the two pharmacists.

The consultant pharmacist for Riverview ICUs commented how, particularly in more routine aspects of patient care such as pain control, pharmacists in ICUs would prescribe, extend or increase the dose of a prescription and inform the bedside nurse accordingly without needing to discuss the change with consultants. During her interview she was asked about the extent to which permission to change a prescription was explicitly sought from the consultant:

It's a thin line. I mean for example a patient's pain control today, I mean I wouldn't ask a consultant that. If a patient was in pain, you know I'd just go and speak to the patient and maybe make some recommendations and do

them.

(Riverview South ICU: Julie, consultant pharmacist)

While the consultant pharmacist at Riverview North and South ICUs was often observed liaising with particular bedside nurses regarding changes to patients' medications, junior pharmacists at those units were not observed to follow suit. Instead, they would defer any prescriptions for which they were uncertain to the consultant pharmacist for her to check or take forward.

At Cityview ICU, the pharmacist also regularly examined the ICU patients' prescription charts and discussed these elements with nurses to clarify any queries, but during the fieldwork she was not witnessed to prescribe or openly challenge a medical prescription. This may have been a reflection of the lower hierarchical position of the pharmacist at Cityview compared to Riverview ICUs. In addition, the medical consultants at Cityview ICU did not appear to be particularly supportive of the pharmacist amending medical prescriptions. Although the medical consultants did not explicitly report this during interviewing or informal conversations, an instance was noted in the fieldnotes during which one of the consultants appeared particularly dismissive of this practice during a ward round:

At the ward round the bedside nurse and doctor were discussing the fact that the patient was not responding well to treatment. The nurse queried whether the patient was not absorbing the medications and suggested asking the pharmacist to recommend alternative medication to which the consultant responded:

Mark (medical consultant): 'No! I don't want her changing our prescriptions. I'll need to get some advice [and come back to you].'

(Cityview ICU: 21)

The above fieldnote entry suggests the consultant was dismissive of the pharmacist changing his prescription, although overt conflict between the two was never witnessed. It is likely that while this consultant at Cityview ICU was content with the pharmacist's role of checking the prescriptions, for example for drug-to-drug interactions, and communicating any concerns with him, he remained overall

protective of his prescriptions. In this way the consultant appeared to maintain and defend his authority over this jurisdiction.

A jurisdiction disputed

The jurisdiction over prescribing between medicine and pharmacy was not typically a cause for overt conflict between doctors and pharmacists. However, at Riverview North and South ICUs the exception arose when there was a disagreement about the use of a particular 'controversial' drug – a drug that was not routinely or normally used in ICUs. Pharmacists in this instance appeared to draw on their specialist and distinct knowledge of pharmacology to resist and eventually stop a particular prescription perceived to be unsafe from being used. The consultant pharmacist for Riverview ICUs discussed this in her interview:

> *For example, quite recently they've (doctors) introduced ECMO in the ICU, Extra Corporeal Membrane Oxygenation. And they want to use a drug called tranixamic acid which is a drug that stops clots being broken down, and they usually give it by bolus dosing every six or eight hours. The intensivist wants to use it by continuous infusion for this technique, and we used it in one patient. They're very impatient for us to put it on the system so they can do it. So I think we spoke to, one of them spoke to one of my colleagues about it yesterday and said 'just get on with it!' But actually today I saw him (consultant) and I said 'Look, we're not gonna put it on until we know the adverse effects.' And there are reports of seizures and it accumulates in renal failure, so we're not actually gonna do it. They were hassling us to do it, but we had to make sure it's safe.*
> (Riverview South ICU: Julie, consultant pharmacist)

In the above extract, the pharmacist appeared to allude to patient safety in order to validate and legitimise her claim to 'block' a medical prescription. Through this, the pharmacist appeared to move beyond her typical professional jurisdiction as a supplementary prescriber by not simply advising against a particular drug but actively working to prohibit the medical consultants from its use.

Even at Riverview North and South ICUs the pharmacists did not overtly challenge or confront doctors during the ward round; instead, disputes were resolved through

informal discussions. When the consultant pharmacist was asked to discuss how such disputes were settled, she stated:

> *I think disagreements often come up because things, issues are approached in an untimely manner, or in an inappropriate manner I think. I think if [these were raised] somewhere else (not during the ward round) then it doesn't become such an issue. There are very few cases, there have been a couple where the intensivist has insisted on something we disagree with. If that happened to one of the junior pharmacists on a day-to-day basis they'd then come and speak to me. I then go and speak to the intensivist if I agree with the junior pharmacist, and then we'd take it from there.*
>
> (Riverview South ICU: Julie, consultant pharmacist)

Here, the consultant pharmacist admitted that not only did disagreements with doctors arise, but that there were also times when the medical consultants insisted on a prescription despite a pharmacist's concerns. Although the pharmacist was not forthcoming in stating which party typically conceded on such occasions, or indeed how often these arose, the medical consultants' practice to insist on a prescription despite concerns suggests they were not fully comfortable in relinquishing or sharing control over this element of their work.

In contrast to the current study's finding, Mesler's (1991) ethnographic study of two North American hospitals found little evidence of dispute between pharmacists and doctors and concluded that pharmacists had been accepted as part of the clinical team in those hospitals. Pharmacists in Mesler's study readily acknowledged that they relied upon doctors' diagnoses and goals to evaluate the appropriateness of a treatment and therefore, it can be construed, the jurisdiction over prescribing in that study was settled through pharmacists accepting a position of 'subordination' (Abbott, 1988) to doctors. In the current study, however, pharmacists were found to claim substantial authority over prescribing in ICU; exemplified in the particular instance in which the consultant pharmacist in ICU reported to resist and ultimately refuse to dispense a particular drug despite a consultant insisting on it. In addition, there was evidence that ICU consultants resisted and excluded input from pharmacists, as indicated by the consultant at Cityview ICU refusing to seek advice from the ICU

pharmacist regarding a drug to which the patient did not respond satisfactorily. This lends direct support to Abbott's (1988) argument about disputes and resistance arising when established jurisdictions become challenged by newcomers to the division of labour. In the current study pharmacists' subordination to doctors was not inevitable or straightforward. On the contrary, evidence examined here revealed ICU pharmacists extending their remit beyond supplementary prescribing and towards sharing this jurisdiction with doctors.

A jurisdiction shared

In addition to 'checking' the accuracy and safety of medical prescriptions, the pharmacists at Riverview ICUs also engaged in influencing medical prescriptions more actively through the development of prescription protocols and guidelines. Although these were developed with the endorsement of medical consultants, as a means of safety and standardisation, gradually they came to influence medical prescribing to a large degree. A pharmacist at Riverview South ICU reported the following when asked about the extent to which she perceived pharmacists could influence medical prescribing:

> *I think we influence the prescribing in that we influence the selection of agents. So we have a lot of guidelines in place that are available at the bedside that tell you for example which sedative you use at which time and which patient. So that's how you influence it in one way. And those guidelines are drawn up by the pharmacy team and then presented to all the consultants and they all agree them and then they're set in stone in the unit. So influence in that way. We influence in other ways in that at the point that they prescribe, we may tell them to use something different or request something different, or we may take into account individual patient variables like their renal function or their liver function and then recommend alternative therapy.*
>
> (Riverview South ICU: Judy, band seven pharmacist)

The above quote suggests that the pharmacists at Riverview North and South ICUs exercised substantial influence on the ICU consultants' prescribing practices, lending further weight to the argument for a shared jurisdiction. When probed during an

interview, the consultant pharmacist was clear to claim a distinct role in the ICU, beyond a supportive capacity. To the following question she responded:

> *Andreas: Would you say that the pharmacist's role is to support the consultant?*
> *Julie: Probably in the grand scheme of things. [pauses for a moment] No! I don't think it's the role to support the consultant. I think their role is more there as the medicine expert but it feeds into the consultant.*
> (Riverview South ICU: Julie, consultant pharmacist)

In the above instance the consultant pharmacist appeared to confidently shape a distinct jurisdiction for clinical pharmacists in ICUs as the '*medicine expert*', thus attempting to establish a firm boundary. The consultant pharmacist's claim notwithstanding, junior pharmacists were not witnessed in either of the ICUs to present themselves as the medicine experts since they rarely contributed to the ward round nor had open confrontations with other staff. In this context, the role of pharmacists in ICUs as medicine experts was not accomplished by all pharmacists but was mainly reinforced through a kind of boundary work (Gieryn, 1983) from the consultant pharmacist.

The contribution of clinical pharmacists in day-to-day ICU work was more obvious in interactions with junior doctors rather than consultants. For example, in a visit at Riverview South ICU the following incident was noted:

> *The phone rung at the nurses' station and Jason (band five nurse) answered. Jason called to Jake (SHO) and told him that on the other line was 'pharmacy' asking about a particular patient's prescriptions. Jake picked up the phone:*
> *Jake: 'Hello… Let me just check with my colleague. Tristan (SpR), why is she (patient) on vancomycin?'*
> *Tristan: 'Chest wise…'*
> *Jake held the phone so that the pharmacist could hear Tristan as he spoke. In response to the pharmacist's questions on the phone, Jake shook his head and continued to ask further questions to Tristan:*
> *Jake: 'Is it done perioperatively?'*
> *Tristan: 'Yes, we are covering her chest.'*

Jake: 'Is she MRSA?'

Tristan: 'We don't know.'

Jake: 'She is on too many antibiotics (Jake stated to Tristan while pointing at the phone).'

Tristan: 'The consultant ordered them.'

Jake: (to the pharmacist on the phone) 'I need to speak with my consultant, can I ring you back?'

(Riverview South ICU: 28)

In the above fieldnote extract, the junior doctors did not appear confident in adequately addressing the pharmacist's concerns about the patient's overloaded prescription record. This could suggest that the junior doctors acknowledged the pharmacist's role as holding sway over medicines in the ICU. However, by deferring the pharmacist's concerns to the medical consultant, the junior doctors appeared to accept the pharmacist's authority in this area while concurrently reinforcing the medical consultant's role as the ultimate decision-maker.

While the pharmacists' claim was more obvious at Riverview North and South ICUs, some evidence of pharmacists advising junior doctors on prescriptions was also witnessed at Cityview ICU:

Jenny (band five nurse) approached Nick (SHO):

Jenny: 'Nick, my patient in bed two is about to be transferred and they (receiving hospital) don't take I.V morphine and midazolan. They asked to do a prescription for mix morphine and midazolan subcutaneous. Can you do it?'

Nick: 'I am not that familiar with syringe drivers. Can someone advise?'

Jenny: 'We can talk to pharmacy to explain what we can do.'

Nick called the ICU pharmacist:

Jenny: (on the phone) 'Yes, the pharmacist? Just a bit of advice please.'

(Cityview ICU: 44.1, 45)

Pharmacists in the ICUs studied appeared to attempt to extend their boundaries from merely dispensing and checking prescriptions to being the '*medicine expert*', claiming a greater niche in the jurisdiction of prescribing. Pharmacists were largely found to do so subtly, typically avoiding open challenge, and to draw from their specialist

knowledge and allude to patient safety in order to justify and legitimate their jurisdictional claims. Junior pharmacists, still in training and being socialised into their profession, exhibited less overt attempts in this regard compared with the consultant pharmacist, who was more proactive in her boundary work. It is likely that the consultant pharmacist's experience and senior position at Riverview ICUs afforded her with greater authority to challenge medical instructions. In comparison, the clinical pharmacist at Cityview ICU, who did not hold a similar position, avoided confrontation with medical consultants about their prescriptions and remained largely involved in maintenance work.

The lead Riverview ICU pharmacist's claim as being the '*medicine expert*' in intensive care is indicative of an attempt to amalgamate all matters drug related in the ICU and assimilate these within the pharmacist's jurisdiction. This would be characteristic of what Abbott (1988) described as an 'attacking move' by one profession over another's jurisdiction. This also confirms Mesler's (1991) claim that pharmacists have been engaging in a slow process of encroaching on the medical jurisdiction of prescribing. However, unlike the subtle ways of doing this that Mesler described, in ICUs, pharmacists appeared to be more overt in their claims. In the current research, while doctors maintained jurisdiction over prescribing there was also evidence that this was partly shared with pharmacists. ICU pharmacists checked and amended medical prescriptions, while they themselves supplementary prescribed certain drugs within the agreed treatment plans for patients, such as pain control. These findings can be explained as the combined effect of the ICU patients' conditions, rapid pharmaceutical advancements and supporting health policy. Firstly, because patients in ICUs face life-threatening conditions they rely on complex drug regimens to support their various failing organs. Given the multiple interactions that particular drugs can have, which could lead to serious complications, the comprehensive knowledge of the pharmacist in ICUs appears pivotal. Secondly, intensive care is a rapidly advancing medical specialism where continuous innovations are made in life-support drugs with a plethora of pharmaceutical research made available. Consequently doctors may face difficulties in remaining up to date with all the pharmaceutical developments in the ICU. Lastly, pharmacists in ICUs in the UK have been empowered by the DH (2000b;

2005b) modernisation policies for intensive care which explicitly support the development of the specialist ICU pharmacist role with supplementary prescribing rights (NHS, 2006).

The findings examined here support Abbott's (1988), as well as Freidson's (1976), theorisation of outside structural forces such as policies and legislation influencing the division of labour through the opening of areas of jurisdiction. The DH modernisation policies and the accompanied legislation for supplementary prescribing empowered pharmacists in ICU to extend their remit and challenge doctors exclusive right over the jurisdiction of prescribing. In addition, pharmacists in ICU were found to work at accomplishing their prescribing jurisdiction since they faced resistance from doctors who were defensive and unyielding with their prescriptions. This finding also lends weight to Abbott who, in line with Strauss *et al.* (1964), also cautioned that such jurisdictional changes require settling and negotiation in day-to-day practice through face-to-face interaction. The current study's analysis of the jurisdiction of prescribing in ICU supports and adds to Abbott's theorisation by providing an illustrative case of how this theory is translated in the world of work and how professions accomplish and negotiate jurisdiction in the microcosm of ICU.

Pharmacy-nursing alliance

While the position of the pharmacists in the ICUs can be seen as challenging or competitive to doctors, at least concerning the jurisdiction over prescribing, in contrast they appeared to support and actively build alliance with ICU nurses. For example, pharmacists actively encouraged nurses involving them in patient decision-making and supported them in conflicts with the ICU doctors. One illustrative incident of doctor-nurse conflict was the nurses' breaks. In particular, consultants at Riverview North ICU criticised nurses for not always being available during the ward round, because they were on their break. During an interview, and without being explicitly asked about the topic, the consultant pharmacist at Riverview South ICU commented:

> *If I may be so bold to say, I think sometimes the nursing and the medical routines clash. I think often the doctors don't appreciate when you're a nurse on the unit actually you do really need your breaks because actually you're standing at a bedside and you've got to go and have a break. I mean it's just*

the way it is. I think often the doctors get frustrated when the nurses go for their breaks when the ward round's there.

(Riverview South ICU: Julie, consultant pharmacist)

The pharmacist appeared to be supportive of nurses over this particular conflict with doctors. Furthermore, pharmacists often reported being aware of the ICU nurses' workload and actively engaged with them to support them in their everyday work. For example, at Riverview North ICU during an informal conversation one pharmacist stated:

Often I think our job is to make the nurse in charge's life easier because it's a very busy job in the ICU. So sorting out any of the drug problems for them so they don't have to do it and I often see that, and just helping them with general things. If I'm there and I can do it I'll give them a hand, apart from washing patients, I'm not so good at that, but I'll do anything I can do that's within my skill set.

(Riverview North ICU: 33)

While observations of day-to-day ICU work suggest a positive and seemingly supportive working relationship between pharmacists and nurses, this was expressed in a more subtle manner than the pharmacists' quotes suggest. For example, in neither unit were pharmacists observed supporting nurses at the ward round during discussions with consultants or arguing in support of nurses with consultants. They were, however, observed in all three ICUs answering nurses' questions about drugs and being proactive in approaching them to check they understood and were comfortable with their patients' treatments. A common example was noted in the fieldnotes at Cityview ICU:

The ICU pharmacist walked into the unit and went straight to greet the nurse in charge. Shortly after she came out, sat at the nurses' station and printed out a list of the ICU patients. She looked at the list, appeared to be making some notes, and then walked to every bedside nurse asking 'How is your patient doing?' 'Are you alright with everything?'

(Cityview ICU: 13)

Unlike Cityview ICU where the pharmacist routinely approached all the nurses on shift, at Riverview North and South ICUs the pharmacists only appeared to approach some of the nurses who looked after particularly critically ill patients, rather than all of the nurses in turn. This was likely to have been because of the difference in size of the ICU at Cityview and those at Riverview North and South. Because of the smaller unit size at Cityview, it was possible for the pharmacist to go round to all the nurses (six) whereas it may not have been possible for the pharmacists at Riverview North and South ICUs, each of which had a 15-bed capacity. As examined earlier, this supportive working relationship that the pharmacists discussed and showed with ICU nurses was reciprocal. Nurses themselves, as previously noted, were also supportive of the pharmacists who they praised highly.

Nurses and pharmacists often had discussions about medication safety, appropriate routes of administration and dose response times. Nurses in ICU also appeared to welcome pharmacists' advice on the effects, administration and side effects of particular drugs. Pharmacists themselves also appeared willing to share their expertise with nurses and often circulated round the ICU in order to ensure nurses were comfortable with their patients' drug charts. In addition, when patient drug charts required changes, such as about stopping a particular drug after the indicated course of treatment passed or changing the route of administration for a drug because it was not absorbed by a patient, nurses often asked pharmacists to review these for them and alter particular prescriptions. In this way, pharmacists supported nurses in their jurisdictional claims over aspects of treatment decision-making for ICU patients, while nurses supported pharmacists with their jurisdictional claim as 'medications experts'. Therefore, the complementarity of, rather than competition for, work jurisdictions appeared to foster the professional alliance observed between nurses and pharmacists in ICU. Although nurse prescribing is developing in community and primary healthcare settings (NHS, 2006) this role was not yet developed in the ICUs studied here. Consequently, nurses and pharmacists did not have a jurisdiction over which to compete, unlike pharmacists and doctors. This non-competitive nature of the relationship between nurses and pharmacists fostered a kind of alliance as the two groups supported each other in their jurisdictional claims making. Even though Abbott

(1988) developed his theorisation around the inter-professional division of labour, his concern with competition hindered him from considering the possibility of coalition building across professional groups. The current study extends Abbott's theory by adding this new dimension of coalition building in his model.

Pharmacists' acknowledged role in the ICU and authority over a significant aspect of work can be contrasted with the relatively unacknowledged role of physiotherapists, examined next.

Physiotherapists' role clarity

Of the health professionals examined thus far, physiotherapists in the three ICUs studied appeared to be the least empowered. Physiotherapists seemed to be particularly disempowered relative to medical consultants, while their working relationship with ICU nurses was ambivalent. While physiotherapists' work overall was similar across the ICUs, as was the case with the pharmacists, the work of physiotherapists at Riverview ICUs was more acknowledged compared to Cityview ICU.

While physiotherapy in intensive care was acknowledged as having some role in patient care, this was neither articulated clearly nor formally recognised by the medical consultants. Medical consultants in the ICUs generally spoke in vague terms about the work of the physiotherapy team. Characteristically, when asked a consultant at Cityview ICU stated:

> *It is agreed that everyone probably needs some form of physiotherapy, so everyone gets physiotherapy and the specifics are left to the physios, nurses and to a lesser extent us.*
> (Cityview ICU: Alan, medical consultant)

This apparent indifference by consultants was something physiotherapists themselves expressed to be a way in which they felt their role was weakened. During an informal conversation one junior physiotherapist at Cityview ICU shared her frustration:

> *It's hard for me to make, claim my role effectively if the people (doctors) that should be sort of delegating work to me don't actually know what I do.*
> (Cityview ICU: 67)

As the above comment suggests, lack of awareness concerning their role in ICU work was perceived by physiotherapists as hindering their involvement and contribution to the ICU. However, junior physiotherapists themselves were also not always able to clearly articulate their role and distinct contribution in the ICU. Characteristically, when asked about her contribution to the ICU, a junior physiotherapist at Cityview ICU replied:

> *For example during the ward round, yeah, I do try and participate and put across my, ehm, I don't know, my treatm-ehm, what I've been doing with the patient.*
>
> (Cityview ICU: Emmer, band five physiotherapist)

In the above quote the physiotherapist was seen struggling to clearly describe her work with ICU patients while being hesitant to refer to physiotherapy work as 'treatment'. While this may have been a reflection on this junior physiotherapist's limited experience, lack of a clear vocabulary to describe physiotherapy work was unlikely to facilitate the physiotherapists claiming a distinct role in ICU work.

Peripheralisation of physiotherapists

Physiotherapists at Riverview ICUs reported feeling excluded from clinical decision-making; one reason given was that they could not follow the ward round. The lack of physiotherapy integration was acknowledged by other health professionals in the ICU. For example, the consultant pharmacist at Riverview South ICU confided during her interview:

> *I think, maybe, as an outsider, I would say that maybe the medical staff, possibly, don't review the physiotherapy interventions as much as they should. I think the physio's [notes] are probably often missed. There's less interaction there I think than is needed.*
>
> (Riverview South ICU: Julie, consultant pharmacist)

While physiotherapists across ICUs were largely disempowered, at Riverview North and South ICUs some examples were noted of physiotherapists actively trying to increase their involvement with and input to patient care. A typical example was noted at Riverview North ICU:

At the ward round, at bed space 23, the consultant (Christian) and nurse (Jacqueline) were discussing the patient's antibiotic regimen, as his progress was slow. David (consultant physiotherapist) approached, stood by the ventilator and looked at the readings.
Christian: 'Any news on the vent?' (looking at David)
David: 'Just looking at it. Do you want to switch to CPAP (continuous positive airway pressure)?' (looking at Christian and Jacqueline)
Jacqueline: 'I could try that, in the afternoon perhaps.'
Christian did not comment but changed the subject to the patient's sedation. David did not insist. By the afternoon I noticed the patient was on CPAP.
(Riverview North ICU: 64.2)

The physiotherapists' efforts to provide input into patient care decisions however were not always successful. They openly discussed being unable to have their recommendations accepted by medical consultants. This was particularly the case when a non-routine physiotherapy intervention was recommended, essentially one with which the medical consultants were not necessarily familiar. For example, when asked during an interview, the consultant physiotherapist at Riverview South ICU explained:

I think a huge issue is how controversial potentially, how something out of the, it could be something that is unusual or like, for example, if I may make the suggestion that this patient is quite severely hypoxemic and needs to be primed. We should trial it and I know that with specific consultants they are going to be much more averse to that.
(Riverview South ICU: David, consultant physiotherapist)

When the physiotherapist was asked why medical consultants might be averse to such a recommendation, he suggested that it could be because medical consultants were not familiar with certain physiotherapy interventions. Given that medical consultants were identified earlier (Chapter Eight) to hold strong views about their accountability, it is not surprising that they would resist a non-routine intervention especially one they were not familiar with.

A senior physiotherapist at Riverview North ICU argued that the medical consultants did not regard the physiotherapy related interventions or concerns as a priority for ICU patients. During a conversation about the contribution of physiotherapists in ICUs she commented:

> *It could be that a certain profession's priorities prevail and it is sometimes difficult to get people to see, you know, that (physiotherapy) is also a priority. It often depends I would say on the consultant on for the day, that is a key factor. It can be difficult sometimes to get what you want, for want of a better way of describing it.*
>
> (Riverview North ICU: Stephanie, band six physiotherapist)

Physiotherapists avoided openly confronting consultants in ICUs in order to have their concerns addressed or input considered. Unlike pharmacists, who would raise issues for the consultant pharmacist to address with medical consultants informally, physiotherapists did not have such a clear strategy in place to avoid overt conflict. The consultant physiotherapist at Riverview South ICU admitted during his interview:

> *Sometimes you'll find that the consultants can be a bit funny in front of their team and you will see a lot of ego and you will see a lot of, um, it is difficult to tease out. Sometimes you think to yourself, I should have done that differently. I should have pulled them away, I should have pulled them aside and just done it on an individual basis. But that is difficult because you will find that, especially the consultants on a ward round, it is different in terms of how much that individual wants to be disturbed, or will allow you to disturb them from their focus. There can be a certain level of like 'I'm the consultant' and you know 'I'm busy' and there is almost like an invisible force field around them.*
>
> (Riverview South ICU: David, consultant physiotherapist)

Despite his senior position as a consultant physiotherapist, David in the above instance admitted he did not yet have a firm strategy in place when interacting with consultants. The description of an '*invisible force field*' in particular further reinforces medical consultants' higher standing in ICUs relative to physiotherapists. The relationship between consultants and physiotherapists in ICUs was one in which physiotherapists appeared to hold a subordinate position (Abbott, 1988).

Another reason reported by nurses to be limiting physiotherapists' input in the care of ICU patients concerned the physiotherapists' 'narrow focus' on patients' lung function. This was in contrast to doctors', nurses' and even pharmacists' concerns with overall patient welfare and recovery. Characteristically, when asked about the role of physiotherapists in the ICU, a senior nurse at Riverview South ICU reported:

> *Physios unfortunately I think stay in the sideline sometimes, that's a failure on all our parts. Reasons, probably difficulties in terms of they are always very much focussed on the chest physio. Once that has been accomplished they will move on.*
>
> (Riverview South ICU: Tina, band seven nurse)

Moreover, some of the ICU nurses approached for comments reported distanced relationships with the physiotherapists, which they attributed to a lack of visibility and engagement. For example, during interviews with junior ICU nurses at Riverview ICUs, the following were reported:

> *Members of the medical team are very important but physiotherapists tend to be less in a way, just because their contact with me tends to be less.*
>
> (Riverview South ICU: Danni, band five nurse)

> *Physiotherapists should be more involved, but, even though they come around in the morning and everything, they just come round listen to the patient, suction and that's it.*
>
> (Riverview North ICU: Louise, band five nurse)

While junior nurses in ICUs typically reported restricted working relationships with the physiotherapists, Jacqueline, one of the sisters at Riverview North ICU, gave the opposite view during her interview:

> *Andreas: How would you describe your working relationship with allied health professionals?*
>
> *Jacqueline: The only health professional I'd say we have got a really good working relationship with is the physiotherapy staff. It is headed up by a very knowledgeable senior physio who is very willing to teach and always asks how you are and is just a source, a huge source of knowledge. I think we have got a*

very good working relationship with them.

(Riverview North ICU: Jacqueline, band seven nurse)

The nurse who gave the above comment was a very senior nurse with a long tenure at Riverview North ICU. She openly reported to have known and worked with the current consultant physiotherapist for years and had a good working relationship with him. This particular nurse's experience of working with the permanent physiotherapy staff and the knowledge she developed about the physiotherapists' work are likely reasons for uniquely stating such an affinity to physiotherapists. This indirectly lends weight to junior nurses' earlier arguments that lack of visibility and familiarity hindered the development of a working relationship with physiotherapists.

Physiotherapists in the ICUs studied were not found to have a clear set of jurisdictions while their overall focus on 'chest physiotherapy' was not perceived by nurses as substantial enough to warrant physiotherapists a stronger presence in ICU work. The lack of concern and integration with other aspects of patient care in ICUs appeared to have led to a *de facto* peripheralisation of the physiotherapists. Abbott's (1988) model is based on the principle that it is control of work through ties of jurisdiction that brings the professions into conflict with each other and makes their histories interdependent. Unlike the case of pharmacists who had supplementary prescribing and medication safety as jurisdiction in ICU, physiotherapists lacking a clear set of jurisdictions left them facing difficulty with claiming their role and contribution in day-to-day practice. In this context, the prime position of professional jurisdiction in Abbott's model is supported through the study's findings and reinforced as crucial in accomplishing a professional boundary within an existing division of labour.

Physiotherapy-nursing boundary

While the boundary between physiotherapists and consultants in the current study was more firmly established, with physiotherapists remaining subservient to consultants and indeed their input rarely given or acknowledged by consultants during the ward round, the relationship with ICU nurses was more ambivalent. For example, weaning a patient off the ventilator was intrinsically linked with a patient's respiratory function and could reasonably be the jurisdiction of the physiotherapist. However,

weaning was an established nursing intervention and jurisdiction in ICUs and one in which nurses held firm ownership.

Physiotherapists, and particularly junior physiotherapists on rotation to the ICU, accepted the higher occupational standing of nurses in intensive care compared to them. For example, in an interview a junior physiotherapist at Cityview ICU explained how she arranged her interventions with particular patients based on what was convenient to the bedside nurse:

> *I'll just go round (to nurses) and say when is it going to be a good time, I'm planning to see this patient and then I'm going to come to you roughly at this time and then they tell me if that's going to be any good for them. You have to fit in with the nurses, it's all about fitting with the nurses, they are the ones that obviously look after the patient the whole time and they are the ones to keep happy.*
>
> (Cityview ICU: Emmer, band five physiotherapist)

As the above quote suggests, junior physiotherapists were conscious of their transient status in ICU in contrast with the permanency of ICU nurses ('*they are the ones that obviously look after the patient the whole time')*, which they acknowledged as affording nurses greater authority in the ICU. In addition, physiotherapists also acknowledged nurses' intricate knowledge of ICU patients. When the same junior physiotherapist was asked about how she worked with other professionals in the ICU, she gave the following example:

> *If I go and see a patient and I am not happy about an aspect of them, something to do with them, either to do with how they've been medically looked after or something to do with their therapy or their nutritional status... I just go find the person who's to do with that or I ask a nurse who knows everything about them.*
>
> (Cityview ICU: Emmer, band five physiotherapist)

In the above instance, the physiotherapist openly admitted that nurses held a comprehensive knowledge of the patients and were an authoritative source of knowledge when it came to patients' medical management. In this context, the

physiotherapist appeared comfortable to use ICU nurses' intricate knowledge of the patient to complement their own practice.

The physiotherapists' treatment focus in ICUs was not always aligned with nurses' focus, particularly with regard to patient comfort. For example, neither manual chest techniques nor mobilisation were particularly pleasant interventions for critically ill patients. Disputes between nurses and physiotherapists therefore often arose. A junior physiotherapist at Cityview ICU commented on a typical example, involving getting a patient out of bed:

> *So for example, last week or a couple of weeks ago, one of my patients, the doctors had said to me we need to get this patient out of bed for his chest, he needs to be sat up out of bed as a treatment, it's going to be the real thing that he needs. So the man looks, he is looking really ropey, but anyway we get him out of bed and we sit him there. And then the nurse comes along; it has taken me 45 minutes to get this man out of bed as well and sat on the chair, and the nurse came along and said 'he looks tired, he looks cold, he needs to go back to bed'. So from my point of view I,I,I had the doctors saying to me this man needs to get out of bed for his chest and even though I know that comfort wise it's probably not in his best interest to get him out of bed but medically it is in his best interest. But the nurse who comes from very much the point of view of doing something for the patient and making sure the patient's well-being is number one, she was saying he should go back to bed 'cause he is cold and tired.*
>
> (Cityview ICU: Emmer, band five physiotherapist)

Ultimately, and typically, the ICU nurses' intricate knowledge of patients' conditions and professional standing in the ICU prevailed in confrontations with physiotherapists. In the above instance, the patient was indeed placed back in bed following the nurse's concerns. Feldnotes made during the unfolding of that particular incident lend further support to the argument that ICU nurses, unlike physiotherapists, held patient comfort as a high priority:

> *While the patient in bed one was sat on the chair by his bed, Patricia (bedside nurse) was very concerned because she felt the patient was very*

uncomfortable; she shared this with another nurse:

Patricia: 'He (patient) doesn't look very comfortable in that chair and he is getting hypertensive. He didn't say anything, but he wouldn't.'

A while later Patricia approached Emmer (physiotherapist):

Patricia: 'You know we sat him (patient) on the chair, but he is a bit…'

Emmer: 'Floppy?'

Patricia: 'Yeah, his balance is not good. His head just falls. I am going to put him back on the bed soon. Well at least we tried.'

Emmer: 'Could he just sit a bit longer?'

A while later Patricia placed the patient back in the bed.

(Cityview ICU: 69- 70)

Following that incident I approached Patricia at her bedside to ask about what had happened. In that conversation she stated:

Patricia: 'It's not that we are refusing to do our job. I spoke to Natalie (nurse in charge) who said yeah, the docs and physios want to but they are not the ones who have to watch him.'

(Cityview ICU: 72)

Patricia's comment to me '*they are not the ones who have to watch him*' also reinforces the view that the organisation of nursing work in ICU, with nurses being stationed in a bed space providing one-to-one care, influences nurses' decision making. While this does not support Harvey's (1997) view of ICU nurses having a 'different epistemology', it does lend weight to Melia's (2001) argument that proximity to patients plays a part in shaping clinical decision-making in ICUs. One-to-one nursing care exposed nurses to the potential suffering associated with being a patient in ICU and enabled them to use these 'interpretive cues' (Anspach, 1987) to inform clinical decision-making.

A contrasting example to the above was given during an interview with the consultant physiotherapist at Riverview South ICU. In the quote below, the physiotherapist argued that when disagreements between nurses and physiotherapists arose, often it

was up for negotiation what actions should ensue, although ultimately it was up to the physiotherapists to effectively legitimise their claims:

> *I mean, the nursing staff for example could say the patient is unstable cardiovascularly, you may then identify that they have blocked their ET tube or they are at risk of blocking their ET tube. You may find a junior inexperienced physiotherapist may not be able to negotiate with that staff member and they back off and just say the patient is perceived to be too unwell. Whereas I could walk up to the bedside and I will investigate things further and I'll say, 'Look, we need to treat this person and we need to do it now, and I know you have told me that they are unstable but you know, you haven't turned them for four hours, and we really need to reassess the situation, so I think it is worth you now taking, pursuing this as an issue and we reassess the patient with this intervention.' So again, it comes down to where there can be differences in terms of what you think the patient needs at that time, but it is up for negotiation and again it probably depends on obviously the patient condition and the staff members around at the time and the discussions that ensue.*
> (Riverview South ICU: David, consultant physiotherapist)

In the above instance, a distinction between junior and senior physiotherapists is made. While the junior physiotherapist at Cityview ICU earlier conceded to the nurse's concerns, the senior physiotherapist here discussed emphasising the threat of chest infection to legitimise his recommendation over a nurse's concerns. Such episodes, however, were not actually witnessed in day-to-day ICU work, especially not with junior physiotherapists who appeared rather subservient to ICU nurses. This illustrates the higher standing and confidence of senior physiotherapists relative to junior physiotherapists in ICUs. As indicated in the consultant physiotherapist's quote, this standing appeared to be accomplished dynamically through day-to-day interaction.

The relationship between physiotherapists and nurses in ICU did not appear to be as well developed as that between nurses and pharmacists. This was because the physiotherapists' treatment focus in ICUs, such as mobilisation and chest exercises, was not aligned with nurses' focus, particularly with regard to patient comfort. Patient familiarity was a primary concern for nurses who would aim to look after the same

patients until they were discharged and appeared to hold a protective attitude towards them. This created continuity for patients and allowed nurses to develop a high level of intimacy with the patients and in-depth knowledge of their conditions. ICU nurses, as the professionals closest to and in longest contact with ICU patients, appeared to be more sensitive and aware of matters regarding their patients' comfort and quality of care compared with physiotherapists. This was at the heart of disagreements between these two professions, particularly as the physiotherapy focus was largely on patient progress and the nursing focus was largely on patient comfort. In addition, in contrast to pharmacists whose presence in the ICU was largely episodic, physiotherapists undertook their interventions with patients in the same spatiotemporal zone with nurses. In this sense, nurses' spatiotemporal presence can conflict with physiotherapists' use of space.

Even though physiotherapists did not yet have a clear set of jurisdictions in the ICU, their concern with patient mobilisation and lung function gave rise to disputes with nurses. These disputes indicated that these concerns were sensitive areas for both professional groups and where physiotherapists could draw from to develop their unique contribution and jurisdiction in ICU; this is indicative of what Abbott (1988) described as an aspiring move by newcomers into an existing area of practice. While the DH (2000b; 2005b) modernisation policies for ICU encouraged greater physiotherapy input to ICU, in the absence of a solid legal framework physiotherapists resorted to negotiation practices with nurses in their efforts to claim and accomplish their occupational jurisdictions. This lends support to Strauss *et al.*'s (1964) argument that negotiation is more prominent under conditions of change and where structures and agreements are less established. The DH policies, especially DH (2005b) on the ICU workforce, created an opportunity for physiotherapists to change and advance within their role but as identified here physiotherapists have made slower progress in this regard compared to pharmacists who were supported by accompanied legal changes to prescribing.

While at the time of the current study ICU nurses held sway over issues of patient mobilisation and lung function, by deciding on patients' readiness for extubation and mobilisation, physiotherapists subtly engaged in a process of claiming a greater say in

these clinical-decisions. With the exception of the consultant physiotherapist at Riverview ICUs, evidence examined here do not indicate physiotherapy claims to have been successful. However, Abbott argued that professions cannot hold full control over an infinite number of jurisdictions. Therefore, in following Abbott, the extent to which ICU nurses are likely to continue to hold full control over the range of jurisdictions they currently do, including patient mobilisation, while claiming more technical competencies and input to medical decision-making (as noted in Chapter Eight) is questioned here.

Summary

As examined in this section, in accomplishing day-to-day ICU work pharmacists and physiotherapists were required to manage their working relationships with doctors and nurses as conflicting views and priorities led on occasions to confrontation. Pharmacists in particular were identified to gradually extend their role and to claim a greater niche in the ICU, sharing with ICU consultants the jurisdiction over prescribing. This they appeared to do tactfully. Pharmacists typically avoided overt conflict with ICU consultants and kept challenges to their prescriptions in informal conversations; they alluded to patient safety in order to legitimise and justify their jurisdictional claims and worked to build alliances with the ICU nurses. Physiotherapists did not develop clear means to support their claims over ICU work, in contrast to clinical pharmacists. Compared with medical consultants' care priority on patient survival and length of stay, nurses' care priority on patient comfort and quality of care, and pharmacists' care priority on medication and patient safety, physiotherapists' care priority with lung function appeared restricted. Lack of a well-developed articulation of their jurisdiction combined with a perceived narrow focus and reduced clinical presence in the ICUs appeared to have resulted in a *de facto* peripheralisation of physiotherapists in this clinical setting.

Conclusion

In this chapter the position and contribution of pharmacists and physiotherapists in the ICU division of labour was examined. While a lack of focus on allied health professionals from existing ethnographies of ICUs (e.g. Coombs, 2004; Carmel, 2003;

2006) may suggest they hold a less prominent role, in the current study they were found to actively engage and on occasions influence the delivery of patient care.

Pharmacists were found to hold a firm position in ICUs, supporting both doctors and nurses with aspects concerning the safe use of medication. Although physiotherapists were also identified to have an input to patient care, their position appeared less clear and established. Medical consultants indicated a disinterested stance towards the work of either pharmacists or physiotherapists, although the pharmacists' role was more clearly acknowledged. Even though pharmacists' and physiotherapists' work was organised around and shaped by the medical consultants' treatment plans for the patients, in day-to-day ICU practice they exhibited attempts to provide input themselves and influence clinical decision-making. While certain attempts were accepted others were deflected by ICU consultants and the outcome appeared to depend on the seniority of the pharmacy or physiotherapy professionals involved.

Mesler's (1991) research in North American general hospital wards identified a dispute between pharmacists and doctors over prescribing, which is confirmed through the current research to extend to the ICU. This indicates disputes to be a wider and more enduring trend in the relationship between pharmacy and medicine. In a recent British study, involving interviews with 23 pharmacist prescribers, Weiss and Sutton (2009) concluded that while pharmacists have successfully negotiated a role for themselves as prescribers, doctors continue to control the knowledge base relevant for prescribing practice. Doctors in the UK, Weiss and Sutton argued, have managed to develop an overseer role over the process of prescribing, thus retaining jurisdiction and subordinating pharmacists. However, the current study findings from ICUs also reveal that pharmacists are not always passive subordinates and can challenge medical authority over prescriptions they disagree with. In this context, the current study's findings question Carmel's (2003) conclusion that the pharmacist's contribution to the ICU is 'technical, routine and unproblematic' (Carmel, 2003:136).

The current study's insights about the accommodation of pharmacists and physiotherapists as new actors in the ICU division of labour extent findings from past ethnographies (e.g. Coombs, 2004; Carmel, 2006). Neither Coombs nor Carmel examined in detail the contribution and role of pharmacists and physiotherapists in

ICU. However, both these ethnographies were undertaken prior to the workforce modernisation policies for ICU (DH, 2000b; 2005b), in which the contribution and role of pharmacists and physiotherapists was highlighted and described as essential. In particular, in the DH (2005b:18) report 'Quality Critical Care', where the focus was more clearly on the ICU workforce, there was a firm recommendation for 'the development of existing health professional roles into areas beyond traditional boundaries'. The current study's findings of the jurisdictional relationship between doctors, nurses, pharmacists and physiotherapists in ICU point to the effect that the DH modernisation policies have had in ICU and the ways in which these appeared to have influenced professional work and interaction in the workplace. In this way, a line between wider structural forces and everyday professional interaction is revealed, lending weight to existing interactionist arguments about the division of labour and the utility of the sociological concept of jurisdiction (Freidson, 1986; Abbott, 1988).

These findings concerning the accommodation of pharmacists and physiotherapists in the ICU division of labour are important because of the vital role these professional play in the delivery of patient care in ICU. These can inform the development of future workforce policies as well as the organisation of work among health professionals in the ICU. Nurses in particular appeared to be the professionals who worked more closely with allied health professionals and whose boundaries could be seen as being most challenged by the entrance of these new actors into the ICU workplace. While ICU nurses were found to retain a firm position in the ICU division of labour largely due to their intricate knowledge of patients' conditions, their relationship with pharmacists and physiotherapists was less rigid. Nurses appeared to develop a stronger alliance with pharmacists than with physiotherapists. This was fostered by pharmacists sharing information and knowledge about medication and so actively supporting nurses' work in practice. While pharmacists and nurses shared a concern over patient care, the physiotherapists' focus on mobilisation and exercise on occasions clashed with nurses' concern for patient comfort. Unlike instances of non-urgent ICU work, allied health professionals were not prominent in moments of urgent care. During instances in which urgent care was required, the emphasis on immediate action to preserve life support meant there was little or no space for the

involvement of allied health professionals. In instances of patient deterioration, for example, observations revealed allied health professionals to retreat and either to observe from a distance or focus their attention on another patient. While allied health professionals, pharmacists in particular, appeared in non-urgent ICU work to have identified a distinct niche, during emergencies they appeared to be *de facto* excluded.

In the next chapter, the current study's findings are pulled together and discussed in the context of the theoretical position of the study. The findings examined in the current and previous three chapters hold implications for the way in which health professional work in ICU may be conceptualised and understood. Recommendations for health policy, nursing practice and future research are explicitly made.

Chapter Ten: The Division of Labour in Day-to-Day ICU Practice

Based on ethnographic data and theoretically framed by an interactionist perspective to the division of labour – drawing from the work of Hughes (1928), Strauss *et al*. (1964), Freidson (1976) and Abbott (1988) in particular – this study examined health professional work in ICU in order to draw out the associated interplay of context-specific factors and social processes through which clinicians accomplished their day-to-day practice. In undertaking this, a deeper insight into health professional practice in ICU is gained that can inform the development of more refined and resilient workforce policies with implications for the delivery of safe and high quality ICU patient care.

Study findings indicate that in response to the critical and fluctuating nature of patients' conditions in the ICUs, day-to-day health professional work was organised in dynamic terms, in which professional jurisdictions were shared and disputes arose, influenced by professionals' care priorities, staff seniority and the urgent nature of work. Differing professional priorities regarding patient care, which challenged conventional professional jurisdictions, gave rise to inter-professional jurisdiction disputes. These were managed through interaction as they arose in day-to-day practice. Senior staff made confident claims over aspects of work while junior staff evaded overt confrontations. Under conditions of urgent work, where patient deterioration was rapid and the potential for death was high, jurisdictional concerns were to some extent suspended as professionals coordinated their work through non-verbal and highly attuned interaction. Considered together, these findings indicate that ICU work operated within an intricate system of professions which was influenced by wider health policies and context-specific clinical exigencies, was prone to disputes over boundaries and jurisdictions, and was accomplished through day-to-day discursive and tacit interaction.

Study findings questioned conclusions of previous research about the exclusion of nurses from the decision-making process and their passive subordination to medicine in ICUs (Coombs, 2004); challenged the notion that ICU nurses have been incorporated into ICU medicine (Carmel, 2006); questioned claims of an

unproblematic integration of allied health professionals that was implicit in previous research (Carmel, 2003; Coombs, 2004); and exposed the tacit processes of the 'global view' and 'stepping in' through which nurses appeared to accomplish the provision of seamless and safe care in ICUs.

Having systematically analysed the research findings according to different professional boundaries in previous chapters, in this chapter I seek to pull the findings together in order to tease out the implications for ICU work and nursing in particular. Firstly, I reflect on the interactionist perspective to the division of labour and Abbott's (1988) thesis in particular, which I used to analyse the thesis, in light of the study's findings in order to advance an argument for the utility of such an approach and the ways in which the current study's findings help to elaborate this further. Secondly, I turn to the research methods used and the limitations of the study, reflecting on the lessons learned. Finally, key implications and recommendations from the current study are made as relating to health policy, nursing practice and further research.

The division of labour in day-to-day ICU practice: a system of professions?

The thesis was framed within an interactionist perspective to the division of labour and drew from Abbott's (1988) thesis in particular to provide the lens through which the research findings were examined. The thesis was theoretically grounded in four interactionist assumptions revisited in turn next.

Firstly, drawing from Hughes (1928) I saw health professional work as operating within an interdependent ecology; Abbott (1988) referred to this as the system of professions. The current study found that health professionals' work in ICU was interconnected whereby initiatives and claims by one professional group could impact on the work of others. Professionals-specific care priorities informed professionals' jurisdictional claims making. Most jurisdiction claims were settled through what Abbott described as 'intellectual subordination', in which a profession claims intellectual superiority over another but shares the practical aspects of work. In particular, while consultants in principle retained ultimate authority with regard to decision-making in ICUs, the actual execution of their instructions relied on other

professionals agreeing with the particular course of action prescribed. However, in the ICUs studied, the exigencies of the work environment necessitated some aspects of work being shared by different professions. For example, the jurisdiction over patient admission was shared between doctors and nurses, with accuracy of prescriptions being a shared concern for both doctors and pharmacists. Despite some aspects of doctors' work being shared, the medical consultants retained overall authority. While this could lend weight to theories of 'professional dominance' (Freidson, 1988), examples were also identified where the medical consultants' authority was weakened. Such instances consisted in bedside nurses allowing a patient to rest on the ventilator despite explicit instruction to the contrary, and pharmacists blocking a prescription despite consultants insisting on using it. In this context, Abbott's scepticism over the professional dominance literature was valid. According to Abbott, a profession cannot hold unlimited jurisdictions and maintain these over time. Because professions need to develop abstract knowledge to legitimately claim jurisdiction over aspects of work, the more jurisdiction they claim, the more abstract and vague their knowledge claims become, and the more vulnerable they are to other professionals challenging their authority. Based on the current research it is not appropriate to posit that ICU consultants had already started to lose jurisdictions; however, the fact that certain challenges and claims by other professions were upheld suggests that the medical consultants' dominance in ICUs did not remain unquestioned by other professions. In addition, nurses and pharmacists were found to form an alliance and to support each other in their jurisdictional claims making. Abbott's concern with competition hindered him from considering the possibility of coalition building across professional groups. The current study extends Abbott's theory by adding this new dimension of coalition building in his model.

Secondly, following Freidson (1976), I appreciated that outside structural forces, such as health workforce policies, do not determine health professional work but rather set broad and permissive limits to it; Abbott (1988) identified this as occurring through the opening and closing areas of jurisdiction. The difference in findings between the current and previous ethnographic studies in British ICUs relating to allied health professionals lends weight to the above assumption. The current study findings

indicate that DH policies (2000b; 2005b) have empowered these professionals to claim a greater role and contribution in the ICUs. With regard pharmacists in particular, the development of relevant legislation (NHS, 2006) was shown to enable them to claim their jurisdiction over supplementary prescribing more effectively compared with physiotherapists. Concurrently, the tensions identified between these professionals and doctors as well as nurses support Abbott's as well as Allen's (1997) assertions that ultimately jurisdictions require settling in the workplace through professional interaction at the level of day-to-day practice. The current study's analysis of the jurisdiction of prescribing in ICU supports and adds to Abbott's theorisation by providing an illustrative case of how this theory is translated in the world of work and how professions accomplish and negotiate jurisdiction in the microcosm of ICU.

Thirdly, drawing from Strauss *et al*. (1964) and Allen (1997), I viewed the division of labour as being accomplished in the workplace; this according to Abbott (1988) is possible through professional interaction at the level of day-to-day practice. Abbott's and Strauss *et al.*'s attention to negotiation as a key process was not identified through the study's findings, for example regarding the coordination between nurses towards accomplishing ICU work. In contrast, ICU nurses held a global view of each other's work, stepped in to situations and crossed their colleagues jurisdictional boundaries without any signs of negotiation. These findings however do lend weight to Abbott's theorisation about professionals drawing from custom in accomplishing their work, and support Allen's argument that in day-to-day practice nursing work can be accomplished even in the absence of face-to-face negotiation. These findings do not suggest that negotiation did not have a place in ICU but rather that especially intra-professionally negotiation was not a routine feature of nurse-nurse interaction. By revealing the intricacies and textured character of the intra-professional division of labour in day-to-day ICU practice the study provides an additional layer to Abbott's theory. Moreover, the analysis of the division of labour under urgent conditions revealed how urgency can leave little room for jurisdictional disputes and negotiating activity. While work under urgent conditions may not be a feature of many workplaces, the study extends the reach of Abbott's model into critical and urgent

work environments by highlighting the conditions under which jurisdictions can shift and be suspended.

Fourthly, drawing from Abbott I expected the distribution of work jurisdictions in the workplace to be in perpetual dispute. However, in the ICUs studied disputes were limited and the exception rather than the rule, while most professional interactions were more collaborative in nature. Two reasons for this are identified. First, the notion of a 'jurisdiction' required further development for research purposes. Abbott (1988:20) argued for jurisdictions to refer to the 'link between a profession and its work'. While this may be meaningful theoretically, it is difficult to operationalise in research, as it is difficult to identify this operating in actual day-to-day practice. As a consequence the extent to which jurisdictions were contested, advanced and shared was difficult to discern, with some obvious exceptions such the jurisdiction over prescribing, patient admission and extubation. Moreover, Abbott in his thesis used the term 'dispute' interchangeably with conflict (p.19), competition (p.33) and negotiation (p.65). The examples from the current research that indicate jurisdictional disputes – such as disagreements over drug prescriptions, getting a patient out of bed or off the ventilator (see Chapters Eight and Nine) – partly support Abbott's thesis but question his proposition that jurisdictions are perpetually in dispute. Second, the integration of the time variable in Abbott's theory is complex. While Abbott's portrayal of perpetual dispute echoes Strauss *et al.*'s (1964) negotiated order perspective, in which they relatedly argued for continuous negotiations to occur in the workplace, Strauss clarified that such negotiations may be intensified during periods of organisational change and be limited during periods of relative organisational calm where negotiated agreements become custom. Within an analytical framework of a historian like Abbott the change in professional jurisdictions over some decades would indeed appear to shift and be in perpetual motion. However, this was not evident within the one-year data collection period of the current research during which inter-professional disputes were the exception rather than the norm. Therefore, drawing from the findings of the current research it is concluded that although jurisdictions can be in perpetual dispute in the long term, they can be stable in the short term.

Finally, in the current study there was also an unexpected lack of intra-professional tension and boundary disputes reported among ICU nurses, unlike some interview reports from general hospital nursing (e.g. Allen, 1996:246; 2001). Abbott claimed that intra-professional disputes often arise due to the degradation of work that can occur internally within a profession; less prestigious work is often delegated to those members of a profession who are more junior and hold less status. This is the case in general hospital settings where the junior nurses undertake most of the basic nursing care with the more senior nurses undertaking more prestigious work such as liaising with consultants. Abbott argued that this can weaken a profession's jurisdictional claims. The more tasks that are identified to be of reduced status and become routinised and passed on to the least skilled professionals, the higher the risk that jurisdiction over those tasks will eventually be lost to paraprofessionals. The case of general hospital nursing, in which basic nursing care is increasingly being undertaken by unskilled and un-regulated healthcare assistants, is a striking example (Spilsbury and Meyer, 2004). In contrast, in the ICUs studied here the organisation of nursing work did not conform fully to such an approach. Because of the provision of one-to-one nursing, each bedside nurse in the ICUs held jurisdiction on all aspects of care for their patient including both basic care needs and liaising with consultants regarding their patient's treatment and progress. Therefore, in ICU nursing, by avoiding extreme professional degradation as described by Abbott, nurses developed as a more cohesive group, maintaining and strengthening their jurisdictional claims. Because Abbott's overall focus and interest was with the inter-professional system, his position on this aspect was not developed in detail. Therefore these findings can provide an illustrative empirical example indicating an exception to Abbott's theorisation about the inevitability of degradation of work.

Methodological reflection and limitations of study

Data from three ICUs were collected, involving both observations of actual practice and interviews with staff. Choosing more than one site to collect data from may have limited the time spent at each site but increased the confidence in the findings, especially those that persisted across sites. In addition, using more than one research

site added a comparative element to the analysis that highlighted further the influence of local context on health professional work. Inevitably, the current research represents a case study of health professional work in ICUs, within the British NHS in a particular moment in time. Considering the continuous evolution of medical knowledge, health policies, professional organisation, and health and illness conditions, the findings from the current research may be re-examined in future work to identify whether these represent an enduring or fleeting trend.

The research focussed on the interactions between health professionals in ICUs but did not analyse in depth their interactions with ICU patients or their relatives. ICU patients and relatives were in a vulnerable and stressful state of heightened anxiety and so further research burden was not considered to be ethically appropriate for the purposes of this study. In addition, ICU patients were mostly unconscious and therefore their interactions with the ICU staff were limited. As the recipients of healthcare services, ICU patients and their relatives would likely have a part to play in the way care is delivered and may hold distinct perspectives on health professional work. Moreover, the current research investigated health professional work from the position of key ICU actors, namely doctors, nurses, pharmacists and physiotherapists. These professionals appeared to have most input and involvement in ICU work. It is acknowledged, however, that less frequent input to ICU patient care may be made by other allied health professionals such as speech and language therapists and occupational therapists. It is also likely that ICU professionals rely on the maintenance work undertaken by non-professionals such as healthcare assistants, cleaners and technicians. ICU work is different from general ward settings where healthcare assistants in particular make a substantial and intimate contribution to patient care. In ICUs, due to the critical and vulnerable state of patient conditions, healthcare assistants have fewer opportunities to contribute to patient care (Sutton *et al.*, 2004). Consequently, the findings from the current research may offer a partial view of ICU work.

Every effort was made to observe ICU work at different points in time, during different kinds of clinical events and from the perspective of different health professionals. It was not possible, however, to maintain a constant presence in the units. Although the

use of a video camera may have overcome such a limitation, this would not have been possible due to concerns over privacy and confidentiality. This is because, unlike an operating room theatre, in an ICU the patient's face is not covered, health professionals do not wear facemasks and entry is not as controlled with visiting professionals and patients' relatives sometimes present. In addition, it is debatable whether a fixed recording device could capture the multiplicity of events that unfold in ICUs at any one time, and thus may have provided a skewed view.

As a non-UK trained nurse I found the ICUs studied to be unfamiliar environments. However, the fact that I am also a clinician is unavoidable. To enhance the rigour of the research fieldnotes were recorded in as raw a format as possible, conversations noted verbatim or near-verbatim and interview questions were open and non-directive. During the analysis stage, drawing on sociological concepts enabled leveraging the data in order to uncover issues not in clinicians' immediate frame of reference. Moreover, my status as a clinician is likely to have helped in becoming familiar with the setting much more quickly than a non-clinical researcher and in developing rapport with ICU professionals. In Chapter Five I make the research process followed transparent and throughout the findings chapters include illustrative data to enable the reader to make their own assessment of the potency of this work.

The research was undertaken in three ICUs purposively selected to represent established and newly developed units of different staffing numbers and patient capacity. The ICUs, however, were all part of specialist London hospitals that are known to cater for critically ill patients of higher severity compared to ICUs in the wider UK (ICNARC, 2003). Given that patient needs and severity of condition are key factors in influencing health professional work, further work would be required to examine the extent to which the results from the current study are directly transferable to ICUs that cater for a different patient population. In addition, the role of ICU pharmacists and physiotherapists is less well-established in ICUs outside London, which also limits the immediate transferability of the current study's findings. Despite the above caveats, inferences from the current research can be drawn that may be transferable to other ICUs and critical care settings, such as neonatal ICUs. Ultimately, applicability of the study findings to a wider context should be assessed

through future work with a wider population of different types of units in the UK, such as neonatal, cardiac, or liver ICUs.

Investigating health professional interaction in day-to-day practice meant that the ICU workplace arena took analytical primacy in this research. In this sense, Abbott's concern with jurisdictional claim making in the public and legal arenas and the relationship between these and their consequences for boundary work could not be examined in depth within this thesis. Pursuing this angle would have taken the thesis in a different direction, beyond its scope and timeframe, and would steer it away from its central concern with professional interaction in day-to-day practice within the ICU workplace. It is this central concern with investigating the ways and extent to which professional jurisdiction is accomplished in the workplace that has been little explored in the literature, where the biggest gap in knowledge lies, and, therefore, where this research has focussed. The current study has produced a detailed account of the workplace arena of ICU professional work of the kind that commentators have issued calls for (Abbott, 1988; Allen and Pilnick, 2006) and have hitherto been missing from the literature.

Implications for policy, practice and future research

Implications arising from the current study are presented next as relating to health policy, nursing practice and future research. These are summarised in Table 8 and discussed in more detail below, demonstrating how these arise from and relate to the study findings.

Table 8: Implications and recommendations from the study

Health Policy

1. The British 'closed unit' approach to intensive care could be adopted internationally in order to foster further inter-professional collaborative working practices.
2. Blanket approaches to safety policy may not be the ideal way forward; policy makers should encourage greater involvement of clinicians in the development of policies that are locally appropriate.
3. Policies that focus on principles of safe and quality healthcare rather than discipline-specific responsibilities can help to overcome professional disagreements and conflicts reinforced by profession-specific care priorities.
4. Policymakers should be more aware of the inherent complexity that exists within a system of professions and that policy recommendations require time to settle in practice.

Nursing Practice

1. A system of organising ICU nursing work that enables individual nurses to have fuller jurisdiction over their patient's care, such as the primary nursing approach used at Cityview ICU, can facilitate nurses in claiming a greater contribution to patient care discussions.
2. Senior nurses should have a more prominent role in supporting junior ICU nurses with providing input to clinical decision-making and mounting claims over aspects of patient care.
3. The processes of the 'global view' and 'stepping in', as demonstrated by the nurses in the current study, should be introduced in the National Standards for ICU Nurse Education (CC3N, 2011) to aid the preparation of staff specialising in this setting.
4. Accomplishing occupational jurisdiction should be a routine feature of ICU nurses' work so that their distinct contribution to patient care is not lost.
5. Outside ICU settings, having appropriate staffing levels whereby nurses are not stretched over too many patients and can develop intricate knowledge of patient condition will offer greater opportunity for nurses in accomplishing their jurisdictional boundaries.

Future Research

1. The extent to which the expression of the processes of the 'global view' and 'stepping in' among nurses is associated with the prevalence of patient safety incidents in ICUs should be investigated.
2. Patients' and relatives' perceptions of ICU work could be examined in order to consider the contribution that non-professionals can make to healthcare work.
3. Closer and sustained research attention should be paid to the conditions and properties of inter-professional work, seniority and urgency in particular, as they play out in practice.
4. The professional dynamics associated with allied health professionals in different hospital settings should be explored to enhance appreciation of the contribution of these new actors.
5. Further careful analysis of particular case studies that maintain an appreciation of context-specific characteristics can aid understanding of the sensitivities and complexities of different care settings and the pressures these place on professional boundaries.

Health policy

The current ethnographic study of health professional work in ICUs has generated insights that have implications for the deployment of intensive care services and

health policy in particular. At the time of the study health policies concerning the organisation, safety and quality of healthcare shared a common set of assumptions about health professional work. Patient safety policy was directed universally across the NHS as one organisation (DH, 2000a; 2009), which suggests that different healthcare settings face identical challenges and health professional work is conditioned by identical clinical exigencies. The research adds to the increasing body of work that shows that critical care settings in particular (Allen and Prowse, 2002; Hindmarsh and Pilnick, 2002; Carmel, 2006) may be subject to different care demands and professional dynamics, where different conditions can apply. With a view to improving practice, policies tailored to particular healthcare settings that have been found through research to hold specific sets of clinical and organisational exigencies could be developed. For example, the limited overt conflict found between ICU nurses and doctors in the British context contrast with North American findings and suggest that a 'closed unit' approach may foster collaborative working and could be adopted internationally. In addition, joint care planning for patients that requires input from the different health professionals in ICUs may facilitate inter-professional discussions and promote the contribution of nurses and allied health professionals in clinical decision-making.

Health policies are also not sensitive enough to the changing nature of the division of labour in healthcare, suggesting that inter-professional working can be unproblematic in practice; for example, through emphasising the importance of joint working (DH, 2000a; 2008; 2009; 2013a,b) without adequate reflection on the strains this may create in the workplace. The current research indicated that professional relationships and jurisdictions in actual healthcare practice can be dynamic and accomplished through interaction among health professionals in the course of day-to-day work. The clinical exigencies of hospital work and patient needs require flexibility in work organisation where jurisdictions can be shared. Therefore, blanket approaches are not the ideal way forward; rather, policy makers need to encourage greater involvement of clinicians in the development of policies that are locally appropriate. Policies that focus on principles of safe and quality healthcare, rather than profession-specific

regulations and responsibilities, will help to overcome professional disagreements and conflicts reinforced by profession-specific care priorities.

Moreover, inter-professional working is taken at face value and assumed uncritically as a positive element of work (DH, 2000a; 2008): the parliamentary Health Select Committee argued that 'rigid and narrow professional hierarchies… need to give way to new modes of working, characterised by a "flat hierarchy"' (2009:130). However, an inter-professional way of working subject to flat hierarchies can be perceived by health professionals as interfering with professional autonomy and compromising professional standing in the division of labour. ICU clinicians in the current study were protective of their work jurisdictions where other professionals' input could be construed as interference and intrusion into one's territory. As a result, dominant professionals like medical consultants were resistant to unsolicited contributions by other professional groups and excluded them from the process of decision-making. This does not suggest that the notion of inter-professional work is flawed, but rather that policymakers should be more aware of the inherent complexity that exists within a system of professions and that policy recommendations require time to settle in practice.

Nursing practice

Data from the current study reveal that during day-to-day practice professional jurisdiction over aspects of ICU care such as the process of weaning a patient off the ventilator were open to contestation. Nurses in the current study did not simply or always follow medical instruction, as previous ethnographies observed, but often challenged and acted against this, for example with allowing a patient to rest on the ventilator despite clear instruction to the contrary. In such instances, nurses appeared to draw from the intricate knowledge they held of the patient to mount and legitimate their claims, fostered through the provision of one-to-one nursing. Working closely with one patient over a period of time afforded nurses an extended and up-to-date view of ICU patients. This suggests that having appropriate staffing levels, where nurses are not stretched over too many patients and can develop intricate knowledge of their patients, is crucial if nurses are not to find themselves at a disadvantage when trying to accomplish their jurisdictional boundaries. Moreover, a system of organising

ICU nursing work that enables individual nurses to develop that intricate knowledge of their patients, such as the primary nursing approach used at Cityview ICU, can facilitate nurses in claiming a greater contribution to patient care decisions.

In addition, in ICU nursing, by avoiding extreme degradation of work nurses developed as a more cohesive group, maintaining and strengthening their jurisdictional claims over aspects of ICU work. Because of the provision of one-to-one nursing, each bedside nurse in the ICUs held jurisdiction on all aspects of care for their patient including both basic care needs and liaising with consultants regarding their patient's treatment and progress. The practice of junior nurses questioning medical instruction with regard to patients they had concern was actively encouraged by the senior nursing staff who frequently advised and stepped in to support junior nurses in their discussions with doctors. This collegial support served as a resource from which nurses drew when challenging particular medical instruction with which they did not agree, such as senior nurses supporting junior nurses in resisting getting a patient out of bed or off the ventilator when they felt this was inappropriate. In this context, senior nurses have a significant role in the training of junior ICU nurses and in supporting them with making contributions to clinical decision-making and mounting claims over aspects of patient care. Nurse managers should be mindful of these issues of skill-mix in their workforce planning and in preparing the development of junior nurses in ICU, such as through tailored training and mentoring schemes that pay attention to such tacit aspects of nursing practice.

In day-to-day ICU nursing, nurses relied heavily on each other for continuous support. They accomplished the coordination and safe delivery of patient care through interaction, *in situ* and in the moment, utilising a mechanism characterised by a shared awareness of and concern for their colleagues' workload; referred to as the 'global view' and 'stepping in'. In particular, ICU nurses demonstrated a keen sensitivity to their colleagues' actions and behaviours, maintained an awareness of the conditions of nearby patients and actively stepped into situations to provide support to colleagues in need. The coordination of ICU work required nurses to be sensitively attuned to each other's actions, moods, rhythms and pacings. This element of work was vital in the prevention of potential safety incidents and was a tacit but

crucial aspect of ICU nursing, awareness of which is lacking. Introducing the processes of the 'global view' and 'stepping in' as demonstrated by the ICU nurses in the current study in the National Standards for ICU Nurse Education (CC3N, 2011) would aid the preparation of junior staff specialising in this setting.

The dynamic nature of the division of labour and shifting nature of professional jurisdictions in ICU are crucial in enabling long-term resilience of this intricate system of work. In the current study, the day-to-day practice of ICU nurses required them to maintain flexible boundaries, while the multiple needs of patients required them to share certain jurisdictions with other professions. For example, getting a patient out of bed was one area of contention between medicine and nursing, and especially between nursing and physiotherapy. This flexibility of occupational boundaries might serve patient care and unit demands but, however, it could lead to ICU nurses not having a firm grasp of their occupational boundaries and thus being vulnerable to losing jurisdictions to other professions. If ICU nursing is to avoid becoming subsumed within ICU medicine, with nurses losing their distinct contribution and thus becoming nothing more than 'mini-interns', the accomplishment of professional jurisdiction should remain a priority feature of nurses' work.

Further research

Finally, while the current thesis may be seen as bounded within the clinical setting of the intensive care at a particular point in time when workforce modernisation for ICU was at its peak, it also holds implications for further study, some of which I intend to follow up through postdoctoral work.

The current study indicated that work urgency and staff seniority had a part to play in shaping health professional interaction in day-to-day ICU practice. In particular, the data suggest that the less urgent a decision or care task was, and the more junior the professionals involved, the more hierarchical professional interactions appeared to be; and that these became gradually more flattened as seniority and urgency built up. Future research should pay closer and sustained attention to the conditions and properties of inter-professional work, seniority and urgency in particular, as they play

out in day-to-day practice; for example, through observation of professional interaction in different settings.

Moreover, although shared decision-making is emphasised as positive element of professional practice (e.g. DH, 2013a,b), how this is accomplished in day-to-day practice and the extent to which shared decision-making is the safest approach to developing treatment plans is unclear. Given different professionals' unique expertise and knowledge systems it is likely that decision-making requires tailoring to specific clinical situations. Future research should explore the context within and conditions under which shared decision-making is actually safe or unsafe to utilise in practice and in particular clinical settings. This could be pursued through detailed case studies of different settings and organisational practices.

ICU research placed uneven attention on nurses and doctors, overlooking the role of allied health professionals. Increasingly, allied health professionals make a substantial and valued contribution to patient care, which is however little acknowledged or understood. Despite evidence from clinical trials (e.g. Ntoumenopoulos *et al.*, 2002; Kane *et al.*, 2003) that suggest benefits for patients by having ICU pharmacists and physiotherapists, such as reduced length of stays and rates of drug errors, establishing these roles in ICUs appears wanting. In the current study, disputes between allied health professionals and nurses and doctors were found to arise as pharmacists and physiotherapists attempted to claim their role and contribute to clinical decision-making. Given that in any workplace there is a limited set of work jurisdictions to go around (Abbott, 1988) the accommodation of these new actors is likely to have an effect on the role and boundary of ICU nurses who currently share jurisdictions with these new groups, physiotherapists in particular. Further research examining the professional dynamics between nurses, doctors and allied health professionals in different hospital settings would enhance understanding and appreciation of the contribution of these professional groups and the effect they have in reshaping the division of labour in healthcare. This could be explored through analysis of interview and observation data, as well as professional and patient notes especially considering the episodic nature of these professionals' visits to the ward/unit setting.

Similarly, the views of ICU patients and relatives about health professional work have not been largely solicited in research (e.g. Coombs, 2004; Carmel, 2006) due to the nature of critical illness and ethical issues involved. While patients are largely unconscious during their stay in ICU, the experiences of their relatives may provide insights into how health professional work is perceived by ICU service users. Future research could seek to interview patients and their relatives post-ICU discharge to examine their perceptions and the contribution that they themselves make to healthcare work. Findings from such research may inform the development of healthcare practices that are more inclusive of patients and their relatives in the organisation and delivery of ICU care.

Moreover, future research could examine non-professional in addition to professional work in ICUs, and the interplay between the two. Both observational and interview data would be useful here. Although non-professionals such as healthcare assistants, cleaners or porters were not the focus of the current study, they likely have a part to play in enabling the work of ICU clinicians. Such research would also enable examination of the applicability of Abbott's (1988) thesis to non-professional work in healthcare.

In addition, the mechanisms linking nursing resources to patient outcomes remain unclear especially in ICUs. While patient safety incidents are attributable to high-intensity nursing workloads, research remains largely inconclusive (West *et al.*, 2009). The current study identified that nurse interaction under conditions of urgency and during high-intensity workloads was vital in the prevention of potential safety incidents. Therefore, the quality of nurse-nurse interaction is significant in accomplishing safe ICU nursing care, but remains an underexplored area. Further research should examine the extent to which the expression of the identified processes of 'global view' and 'stepping in' among nurses is associated with the prevalence of patient safety incidents in ICUs. This could be examined through cross-sectional and retrospective analysis of incident report forms.

This study demonstrated the potential of workplace research and calls for further such studies in healthcare in order to enable greater understanding of the sensitivities and complexities of different care settings through careful analysis of particular case

studies that maintain an appreciation of context-specific characteristics. This would help the development of more refined policies and ways of organising healthcare work to support staff in delivering high quality and safe patient care.

Reference List

Abbott A. (1988) The System of the Professions: An Essay on the Division of Expert Labor. Chicago: University of Chicago Press

Adam S.K., Osborne S. (2005) Critical Care Nursing: Science and Practice. Oxford: Open University Press

Alasad J. (2002) Managing technology in the intensive care unit: the nurses' experience. International Journal of Nursing Studies 39(4): 407-413

Allen D. (1996) The Shape of General Hospital Nursing: the division of labour at work. PhD Thesis. University of Nottingham

Allen D. (1997) The nursing-medical boundary: a negotiated order? Sociology of Health & Illness 19(4): 498-520

Allen D. (2000) Doing occupational demarcation: the 'boundary-work' of nurse managers in a district general hospital. Journal of Contemporary Ethnography 29(3): 326-356

Allen D. (2001) The Changing Shape of Nursing Practice: The Role of Nurses in the Hospital Division of Labour. London: Routledge

Allen D. (2002) Creating a participatory caring context on hospital wards. In: Allen D., Hughes D. (Eds.) Nursing and the Division of Labour in Health Care. London: Palgrave Macmillan

Allen D. (2002) Time and space on the hospital ward: shaping the scope of nursing practice. In: Allen D., Hughes D. (Eds.) Nursing and the Division of Labour in Healthcare. London: Palgrave Macmillan

Allen D. (2004) Ethnomethodological insights into insider–outsider relationships in nursing ethnographies of healthcare settings. Nursing Inquiry 11(1): 14-24

Allen D. (2010) Fieldwork and participant observation. In: Bourgeault I., Dingwall R., de Vries R. (Eds.) SAGE Handbook of Qualitative Methods in Health Research. London: SAGE

Allen D., Griffiths L., Lyne P. (2004) Understanding complex trajectories in health and social care provision. Sociology of Health & Illness 26(7): 1008-1030

Allen D., Hughes D. (2002) Nursing and the Division of Labour in Healthcare. London: Palgrave Macmillan

Allen D., Pilnick A. (2006) Making connections: healthcare as a case study in the social organisation of work. In: Allen D., Pilnick A. (Eds.) The Social Organisation of Healthcare Work. London: Blackwell

Allen D., Pilnick A. (2006) The Social Organisation of Healthcare Work. London: Blackwell

Allsop J. (2006) Medical dominance in a changing world: the UK case. Health Sociology Review 15(5): 444-457

Amaral A.C.K.B., Rubenfeld G.D. (2009) The future of critical care. Current Opinion in Critical Care 15(4): 308-313

Anspach R.R. (1987) Prognostic conflict in life-and-death decisions: the organization as an ecology of knowledge. Journal of Health and Social Behavior 28(3): 215-231

Ashcroft J., Berry J. (1974) Letter: Computers or nurses? Lancet 2(7892): 1321

Atkinson P. (1995) Medical Talk and Medical Work. London: SAGE

Atkinson P., Coffey A. (2003) Revisiting the relationship between participant observation and interviewing. In: Holstein J., Gubrium J. (Eds.) Inside Interviewing: New Lenses, New Concern. London: SAGE

Atkinson P., Housley W (2003) Interactionism: An Essay in Sociological Amnesia. London: SAGE

Atkinson P., Delamont S. (2005) Analytic perspectives. In: Denzin N.K., Lincoln Y.S. (Eds.) The SAGE Handbook of Qualitative Research. London: SAGE

Atkinson P., Delamont S., Coffey A., *et al*. (2007) Handbook of Ethnography. London: SAGE

Audit Commission (1992) Homeward Bound: A New Course for Community Health. London: The Stationary Office

Audit Commission (1999) Critical to Success: The Place of Efficient and Effective Critical Care Services within an Acute Hospital. London: The Stationary Office

Baggs J.G., Schmitt M.H., Mushlin A.I., *et al*. (1999) Association between nurse-physician collaboration and patient outcomes in three intensive care units. Critical Care Medicine 27(9): 1991-1998

Baker G.R., Norton P.G., Flintoft V., *et al*. (2004) The Canadian adverse events study: the incidence of adverse events among hospital patients in Canada. Canadian Medical Association Journal 170(11): 1678-1686

Ball C., McElligot M. (2003) Realising the potential of critical care nurses: an exploratory study of the factors that affect and comprise the nursing contribution to the recovery of critically ill patients. Intensive and Critical Care Nursing 19(4): 226-238

Banfield G. (2004) What's really wrong with ethnography? International Education Journal 4(4): 53-63

Barton A.H., Lazarsfeld P. ([1955] 1961) Some functions of qualitative analysis in social research. In: Lipset S., Smelser N. (Eds.) Sociology, the Progress of a Decade: a Collection of Articles. Englewood Cliffs: Prentice-Hall

Bates D.W., Gawande A.A. (2003) Improving safety with information technology. New England Journal of Medicine 348(25): 2526-2534

Battilana J. (2011) The enabling role of social position in diverging from the institutional status quo: Evidence from the UK National Health Service. Organization Science 22(4): 817-834

Becker H.S., Geer B. (1957) Participant observation and interviewing: a comparison. Human Organization 16(3): 28-32

Becker H.S., Geer B. (1970) Participant observation and interviewing: a comparison. In: McCall G., Summons L. (Eds.) Issues in Participant Observation. Reading: Addison-Wesley

Becker H.S., Geer B., Hughes E.C., *et al*. (1961) Boys in White: Student Culture in Medical School. Chicago: University of Chicago Press

Beckman U., Baldwin I., Hart G.K. (1996) An Australian incident monitoring study in intensive care, AIMS – ICU, an analysis of the 1st year reporting. Anaesthesia and Intensive Care 24(3): 321-329

Bell J.A., Bradley R.D., Jenkins B.S., *et al*. (1974) Six years of multidisciplinary intensive care. British Medical Journal 2: 483-488

Bhaskar R. (1989) Reclaiming Reality. London: Verso

Blumer H. (1954) What is wrong with social theory? American Sociological Review 19(1): 3-10

Blumer H. (1969) Symbolic Interactionism: Perspective and Method. Englewood Cliffs: Prentice-Hall

Bodenheimer T. (1999) The movement for improved quality in health care. New England Journal of Medicine 340(6): 488-492

Bodenheimer T. (2005) High and rising health care costs. Part 1: seeking an explanation. Annals of Internal Medicine 142(10): 847-854

Borrill C., Carletta J., Carter A., *et al*. (2001) The Effectiveness of Health Care Teams in the National Health Service. Aston: Aston University

Bosch M., Faber M.J., Cruijsberg J., *et al*. (2009) Effectiveness of patient care teams and the role of clinical expertise and coordination: a literature review. Medical Care Research and Review 66(6): 5S-35S

Bosk C.L. (1979) Forgive and Remember: Managing Medical Failure. Chicago: University of Chicago Press

Bosman R.J., Rood E., Oudemans-van Straaten H.M., *et al*. (2003) Intensive care information system reduces documentation time of the nurses after cardiothoracic surgery. Intensive Care Medicine 29(1): 83-90

Braithwaite J. (2005) Hunter-gatherer, human nature and health system safety: an evolutionary cleft stick? International Journal for Quality in Health Care 17(6): 541-545

Brennan T.A., Leape L.L., Laird N.M., *et al*. (1991) Incidence of adverse events and negligence in hospitalized patients: results of the Harvard Medical Practice Study I. New England Journal of Medicine 324(6): 370-376

British Medical Association (1967) BMA Planning Unit Report No. 1: Intensive Care. London: BMA

Brooks E.A. (1949) The first seven years are the hardest. The American Journal of Nursing 49(5): 276-279

Brooks E.A. (1961) Team nursing. The American Journal of Nursing 61(4): 87-91

Buchanan D., Boddy D., McCalman J. (1988) Getting in, getting on, getting out, and getting back. In: Bryman A. (Ed.) Doing Research in Organisations. London: Routledge

Buchman T.G. (1995) Computers in the intensive care unit: promises yet to be fulfilled. Intensive Care Medicine 10(5): 234-240

Buckley T.A., Short T.G., Rowbottom Y.M. (1997) Critical incident reporting in the ICU. Anaesthesia and Intensive Care 52(5): 403-409

Burling T., Lentz E., Wilson R.N. (1956) The Give and Take in Hospitals: a Study of Human Organization in Hospitals. New York: Putnam

Burn J. (1970) Design and staffing of an ICU. Lancet 295(7655): 1040-1043

Campbell D., Reid J.M., Telfer A.B., *et al*. (1967) Four years of respiratory intensive care. British Medical Journal 4(5574): 255-259

Carmel S. (2003) High Technology Medicine in Practice: the Organisation of Work in Intensive Care. Unpublished PhD Thesis London: London School of Hygiene and Tropical Medicine

Carmel S. (2006) Boundaries obscured and boundaries reinforced: incorporation as a strategy of occupational enhancement for intensive care. Sociology of Health & Illness 28(2): 154-177

Charmaz K. (2006) Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis. London: SAGE

Clark T.J., Collins J.V., Evans T.R., *et al*. (1971) A review of experience operating a general medical intensive care unit. British Medical Journal 1(5741): 158-161

Coffey A., Atkinson P. (1996) Making Sense of Qualitative Data: Complementary Research Strategies. London: SAGE

Coombs M. (2000) Medicine, Nursing and Policy Development in Intensive Care : an Ethnography to Explore the Contemporary Nursing Role. Unpublished PhD Thesis Oxford: Oxford Brookes University

Coombs M.A. (2004) Power and Conflict Between Doctors and Nurses: Breaking Through the Inner Circle in Clinical Care. London: Taylor & Francis

Coombs R.H., Goldman L.J. (1973) Maintenance and discontinuity of coping mechanisms in an intensive care unit. Social Problems 20: 342-355

Cooper H.M. (1998) Synthesizing Research: A Guide for Literature Reviews. London: SAGE

Cosby K.S., Croskerry P. (2004) Profiles in patient Safety: authority gradients in medical error. Academic Emergency Medicine 11(12): 1341-1345

Craig J.V., Smyth R.L. (2011) Evidence-Based Practice Manual for Nurses. London: Elsevier

Crinson I. (2008) The health professions. In: Scambler G. (Ed.) Sociology as Applied to Medicine. 6th ed. London: Elsevier

Crinson I. (2009) Health Policy: A Critical Perspective. London: SAGE

Critical Care Network National Nurse Leads (2011) National Standards for Critical Care Nurse Education. London: CC3N

Crocker C. (2007) The development of critical care in England. Intensive and Critical Care Nursing 23(6): 323-330

Crockett G.S., Barr A. (1965) An intensive care unit: two years' experience in a provincial hospital. British Medical Journal 2(5471): 1173-1175

Currie G., Lockett A., Finn R., *et al*. (2012) Institutional work to maintain professional power: recreating the model of medical professionalism. Organization Studies 33(7): 937-962

Davies C. (1979) Comparative occupational roles in health care. Social Science & Medicine 13(4): 515-521

Davies J.L., Vaughan D.J. (1914) The Republic of Plato; Translated Into English, with an Analysis, and Notes. London: Macmillan

Dawson D., Coombs M. (2008) The current role of the consultant nurse in critical care: consolidation or consternation? Intensive and Critical Care Nursing 24(3): 187-196

Degeling P., Kennedy J., Hill M. (2001) Mediating the cultural boundaries between medicine, nursing and management – the central challenge in hospital reform. Health Services Management Research 14: 36-48

Department of Health (2000a) The NHS Plan. A Plan for Investment. A Plan for Reform. London: Department of Health

Department of Health (2000b) Comprehensive Critical Care: A Review of Adult Critical Care Services. London: Department of Health

Department of Health (2001) The Nursing Contribution to the Provision of Comprehensive Critical Care for Adults: A Strategic Programme of Action. London: Department of Health

Department of Health (2003) Hospital Building Note 57. Facilities for Critical Care. London: Department of Health

Department of Health (2004) Agenda for Change Final Agreement. London: Department of Health

Department of Health (2005a) Creating a Patient-led NHS. Delivering the NHS Improvement Plan. London: Department of Health

Department of Health (2005b) Quality Critical Care-Beyond Comprehensive Critical Care. London: Department of Health

Department of Health (2006) Improving Patients' Access to Medicines: A Guide to Implementing Nurse and Pharmacist Independent Prescribing within the NHS in England. London: Department of Health

Department of Health (2008) High Quality Care for All: NHS Next Stage Review Final Report. London: Department of Health

Department of Health (2009) Response to the Health Select Committee Report 'Patient Safety'. London: The Stationary Office

Department of Health (2010) Equity and Excellence: Liberating the NHS. London: Department of Health

Department of Health (2012) NHS Reference Costs 2011-12. London: Department of Health

Department of Health (2013a) The NHS Constitution. London: Department of Health

Department of Health (2013b) Patients First and Foremost. The Initial Goverment Response to the Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry. London: The Stationary Office

Department of Health and Social Security (1967) Hospital Building Note 27. The intensive therapy unit. London: The Stationary Office

Department of Health and Social Security (1970) Organisation and Staffing of Operating Departments. London: The Stationary Office

Department of Health and Social Security (1981) The Primary Health Care Team. Report of a Joint Working Group of the Standing Medical Advisory Committee and the Standing Nursing and Midwifery Advisory Committee. (The Harding Report). London: The Stationary Office

Department of Health and Social Security (1986) Neighbourhood Nursing. A Focus for Care (The Cumberlege Report). London: The Stationary Office

Dingwall R. (1977) The Social Organization of Health Visitor Training. London: Croom Helm

Dingwall R. (1980) Problems of teamwork in primary care. In: Lonsdale S., Webb A., Briggs T. (Eds.) Teamwork in the Personal Social Services and Health Care. London: Croom Helm

Dingwall R., Strong P.M. (1985) The interactional study of organizations: a critique and reformulation. Journal of Contemporary Ethnography 14(2): 205-231

Dixon-Woods M. (2010) Why is patient safety so hard? A selective review of ethnographic studies. Journal of Health Services Research & Policy 15(suppl 1): 11-16

Drinker P.A., McKhann C.F. (1986) Landmark perspective: The iron lung. First practical means of respiratory support. Journal of the Americal Medical Association 255(11): 1476-1480

Durand M., Hutchings A., Black N., *et al*. (2010) 'Not quite Jericho, but more doors than there used to be'. Staff views of the impact of 'modernization' on boundaries around adult critical care services in England. Journal of Health Services Research and Policy 15(4): 229-235

Durkheim E. (1817) L'Industry vol II. Cited in: Tiryakian E. (2009) For Durkheim: Essays in Historical and Cultural Sociology. Surrey: Ashgate

Durkheim E. (1915) La Sociologie. Cited in: Tiryakian E. (2009) For Durkheim: Essays in Historical and Cultural Sociology. Surrey: Ashgate

Durkheim E. (1933) The Division of Labour in Society. Translated by George Simpson. London: Collier-Macmillan

Eisenhardt K. (1989) Building theories from case study research. The Academy of Management Review 14(4): 532-550

European Commission (2003) Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time. Official Journal of the European Union L299: 9-19

European Commission (2009) The 2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060). Brussels: European Commission

Evans D., Benham S., Garrard C. (1998) A comparison of handwritten and computer-assisted prescriptions in an ICU. Critical Care 2(2): 73-78

Fairman J. (1992) Watchful vigilance: nursing care, technology, and the development of intensive care units. Nursing Research 41(1): 56-60

Faxon N., Churchill E. (1942) The Cocoanut Grove disaster in Boston. Journal of the American Medical Association 120(17): 1385-1388

Felton G. (1975) Increasing the quality of nursing care by introducing the concept of primary nursing: a model project. Nursing Research 24(1): 27-32

Ferguson A. (1980) An Essay on the History of Civil Society. New Brunswick: Transaction. Cited in: Law A (2011) Key Concepts in Classical Social Theory. London: SAGE

Fielding N. (1993) Ethnography. In: Fielding N. (Ed.) Researching Social Life. London: Sage Publications

Finn R. (2008) The language of teamwork: reproducing professional divisions in the operating theatre. Human Relations 61(1): 103-130

Firth-Cozens J., Moss F. (1998) Hours, sleep, teamwork, and stress. Sleep and teamwork matter as much as hours in reducing doctors' stress. British Medical Journal 317(7169): 1335-1336

Flin R., Maran N. (2004) Identifying and training non-technical skills for teams in acute medicine. Quality and Safety in Health Care 13(suppl 1): i80-i84

Flyvbjerg B. (2006) Five misunderstandings about case study research. Qualitative Inquiry 12(2): 219-245

Fournier V. (2000) Boundary work and the (un)making of the professions. In: Malin N. (Ed.) Professionalism, Boundaries and the Workplace. London: Routledge

Fraenkel D.J., Cowie M., Daley P. (2003) Quality benefits of an intensive care clinical information system. Critical Care Medicine 31(1): 120-125

Francis R. (2013) Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry. The Stationary Office

Freidson E. (1976) The Division of Labor as social interaction. Social Problems 23(3): 304-313

Freidson E. (1988) Profession of Medicine: A Study of the Sociology of Applied Knowledge. Chicago: University of Chicago Press

Gajic O., Afessa B. (2009) Physician staffing models and patient safety in the ICU. Chest 135(4): 1038-1044

Garland A. (2005) Improving the ICU: part 2. Chest 127(6): 2165-2179

Gieryn T.F. (1983) Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists. American Sociological Review 48(6): 781-795

Gilardi S., Guglielmetti C., Pravettoni G. (2013) Interprofessional team dynamics and information flow management in emergency departments. Journal of Advanced Nursing doi: 10.1111/jan.12284

Glaser B.G. (1978) Theoretical Sensitivity: Advances in the Methodology of Grounded Theory. Mill Valley: Sociology Press

Gold R. (1958) Roles in sociological field observations. Social Forces 36(3): 217-223

Goldhill D., Summer A. (1998) Outcome of intensive care patients in a group of British ICU. Critical Care Medicine 26(8): 1337-1345

Golin M. (1958) At last - a hospital to fit doctor patient needs. Journal of the American Medical Association 166(17): 2180-2183

Goodwin D., Pope C., Mort M., *et al*. (2005) Access, boundaries and their effects: legitimate participation in anaesthesia. Sociology of Health & Illness 27(6): 855-871

Green J., Armstrong D. (1993) Controlling the 'bed state': negotiating hospital organisation. Sociology of Health & Illness 15(3): 339-352.

Green J., Armstrong D. (1995) Achieving rational management: bed managers and the crisis in emergency admissions. The Sociological Review 43(4): 743-764

Green J., Durand M.A., Hutchings A., *et al*. (2011) Modernisation as a professionalising strategy: the case of critical care in England. Sociology of Health & Illness 33(6): 819-836

Green J., Thorogood N. (2004) Qualitative Methods for Health Research. London: Sage Publications

Greenhalgh T. (2010) How to Read a Paper: The Basics of Evidence-Based Medicine. London: Wiley-Blackwell

Griffiths L. (1997) Accomplishing team: teamwork and categorisation in two community mental health teams. The Sociological Review 45(1): 59-78

Griffiths P., Norman I. (2005) Science and art in reviewing literature. International Journal of Nursing Studies 42(4): 373-376

Grumbach K., Bodenheimer T. (2004) Can health care teams improve primary care practice? Journal of the American Medical Association 291(10): 1246-1251

Hak T. (1999) 'Text' and 'Con-text': talk bias in studies of health care work. In: Sarangi S., Roberts C. (Eds.) Talk, Work and Institutional Order: Discourse in Medical, Mediation and Management Settings. Berlin: Mouton de Gruyter

Hallett C., Birchall E. (1992) Coordination in Child Protection. London: Stationary Office

Hammersley M. (1992a) What's Wrong With Ethnography? Methodological Explorations. London: Routledge

Hammersley M. (1992b) Some reflections on ethnography and validity. international Journal of Qualitative Studies in Education 5(3): 195-203

Hammersley M. (1998) Reading Ethnographic Research. London: Longman

Hammersley M. (2002) Ethnography and realism. In: Huberman M., Miles M.B. (Eds.) The Qualitative Researcher's Companion. London: SAGE

Hammersley M., Atkinson P. (2007) Ethnography: Principles in Practice. London: Routledge

Hannigan B., Allen D. (2011) Complex caring trajectories in community mental health: contingencies, divisions of labor and care coordination. Community Mental Health Journal: 1-9

Hargreaves A. (1984) Contrastive rhetoric and extremist talk. In: Hargreaves A., Woods P. (Eds.) Classrooms and Staffrooms: The Sociology of Teachers and Teaching. Milton Keynes: Open University Press

Hart C. (2001) Doing a Literature Search: A Comprehensive Guide for the Social Sciences. London: SAGE

Hart K.A. (2007) The aging workforce: implications for health care organizations. Nursing Economics 25(2): 101–102

Harvey J. (1992) Behind the Medical Mask: Medical Technology and Medical Power. Unpublished PhD Thesis Warwick: Universtiy of Warwick

Harvey J. (1996) Achieving the indeterminate, accomplishing degrees of certainty in life and death situations. Sociological Review 4(1): 78-98

Harvey J. (1997) The technological regulation of death: with reference to the technological regulation of birth. Sociology 31(4): 719-735

Haynes A.B., Weiser T.G., Berry W.R., *et al*. (2009) A surgical safety checklist to reduce morbidity and mortality in a global population. New England Journal of Medicine 360(5): 491-499

Health Select Committee (2009) Sixth Report Patient Safety. London: House of Commons

Heath C., Luff P. (1992) Collaboration and control: Crisis management and multimedia technology in London Underground Line Control Rooms. Computer Supported Cooperative Work (CSCW) 1(1-2): 69-94

Higgins S.B., Jiang K., Swindell B.B., *et al*. (1991) A graphical ICU workstation. Proceedings of the Annual Symposium on Computer Application in Medical Care: 783-787

Hillman A., Tadd W., Calnan S., *et al*. (2013) Risk, governance and the experience of care. Sociology of Health & Illness xx(x): 1-17 DOI: 10.1111/1467-9566.12017

Hindmarsh J., Pilnick A. (2002) The tacit order of teamwork: collaboration and embodied conduct in anesthesia. Sociological Quarterly 43(2): 139-164

Hogan H., Healey F., Neale G., *et al*. (2012) Preventable deaths due to problems in care in English acute hospitals: a retrospective case record review study. British Medical Journal of Quality and Safety 22(2): 182-191

Horlick-Jones T. (2005) On 'risk work': professional discourse, accountability, and everyday action. Health, Risk & Society 7(3): 293-307

Horn E., Jacobi J. (2006) The critical care clinical pharmacist: evolution of an essential team member. Critical Care Medicine 34(3): S46-S51

Houghton P., Donaldson L., Crumplin M. (1984) The role of the intensive care unit in a district hospital. Annals of the Royal College of Surgeons of England 66(1): 46

Hugenholtz P., Van der Voorde L., Deutsch F., *et al*. (1977) An overview of recent developments in computerized intensive care monitoring. Biomedical Engineering 22(1): 3-4

Hughes D. (1988) When nurse knows best. Sociology of Health & Illness 10(1): 1-22

Hughes D. (2002) Nursing and the division of labour: sociological perspectives. In: Allen D., Hughes D. (Eds.) Nursing and the Division of Labour in Healthcare. London: Palgrage Macmillan

Hughes D., Allen D. (2002) Culture as a Barrier to Change: Lessons from the Ethnographic Literature on Hospitals. Unpublished Book Chapter

Hughes E. (1928) Personality types and the division of labor. American Journal of Sociology 33(5): 754-768

Hughes E. (1951) Studying the nurse's work. American Journal of Nursing 51(5): 294-295

Hughes E. (1951b) Mistakes at work. Canadian Journal of Economics and Political Science 17: 320-327

Hughes E. (1956) Social role and the division of labour. Midwest Sociologist 17: 3-7

Hughes E.C., Hughes H., Deutscher I. (1958) Twenty Thousand Nurses Tell Their Story. Philadelphia: JB Lippincott

Hunter A. (1967) Intensive care as a specialty. Lancet 289(7500): 1151-1153

Hunter D.J. (1996) The changing roles of health care personnel in health and health care management. Social Science & Medicine 43(5): 799-808

Hutchings A., Durand M.A., Grieve R., *et al*. (2009) Evaluation of modernisation of adult critical care services in England: time series and cost effectiveness analysis. British Medical Journal 339: b4353

Hyde P., McBride A., Young R., *et al*. (2005) Role redesign: new ways of working in the NHS. Personnel Review 34(6): 697-712

Iedema R. (2009) New approaches to researching patient safety. Social Science & Medicine 69(12): 1701-1704

Institute of Medicine (1999) To Err Is Human: Building a Safer Health System. The National Academies Press

Institute of Medicine (2001) Crossing the Quality Chasm: A New Health System for the 21st Century. Washington: National Academies Press

Intensive Care National Audit and Research Centre (2003) Data from the Case Mix Programme Database. London: ICNARC

Intensive Care Society (1997) Standards for Intensive Care Units. London: Intensive Care Society

Jensen C.B. (2008) Sociology, systems and (patient) safety: knowledge translations in healthcare policy. Sociology of Health & Illness 30(2): 309-324

Jones J., Hoggart B., Withey J., *et al*. (1979) What the patients say: A study of reactions to an intensive care unit. Intensive Care Medicine 5(2): 89-92

Jones S. (1967) The organisation and administration of intensive patient care. Postgraduate Medical Journal 43: 339-347

Kane S.L., Weber R.J., Dasta J.F. (2003) The impact of critical care pharmacists on enhancing patient outcomes. Intensive Care Medicine 29(5): 691-698

Kennedy I. (2001) Learning from Bristol: the Report of the Public Inquiry into Children's Heart Surgery at the Bristol Royal Infirmary. London: The Stationary Office

Kim M.M., Barnato A.E., Angus D.C., *et al*. (2010) The effect of multidisciplinary care teams on intensive care unit mortality. Archives of Internal Medicine 170(4): 369

Kings Fund (1989) Intensive care in the UK, report from the Kings Fund panel. Anaesthesia 44(5): 428-431

Kirkpatrick I., Dent M., Jespersen P.K. (2011) The contested terrain of hospital management: Professional projects and healthcare reforms in Denmark. Current Sociology 59(4): 489-506

Knaus W.A., Draper E.A., Wagner D.P., *et al*. (1986) An evaluation of outcome from intensive care in major medical centers. Annals of Internal Medicine 104(3): 410-418

Kvarnstrom S. (2008) Difficulties in collaboration: a critical incident study of interprofessional healthcare teamwork. Journal of Interprofessional Care 22(2): 191-203

Lamont M., Molnar V. (2002) The study of boundaries in the social sciences. Annual Review of Sociology 28: 167-195

Larkin G.V. (1983) Occupational Monopoly and Modern Medicine. London: Tavistock

Law A. (2011) Key Concepts in Classical Social Theory. London: SAGE

Lee D.J., Newby H. (1983) The Problem of Sociology: An Introduction to the Discipline. London: Routledge

Levy M.M., Rapoport J., Lemeshow S., *et al*. (2008) Association between critical care physician management and patient mortality in the intensive care unit. Annals of Internal Medicine 148(11): 801-809

Lewin S., Reeves S. (2011) Enacting 'team' and 'teamwork': using Goffman's theory of impression management to illuminate interprofessional practice on hospital wards. Social Science & Medicine 72(10): 1595-1602

Lingard L., Espin S., Evans C., *et al*. (2004) The rules of the game: interprofessional collaboration on the intensive care unit team. Critical Care 8(6): R403-R408

Lofland J. (1971) Analyzing Social Settings. Belmont: Wadsworth

Lofland J., Lofland L.H. (1984) Analyzing Social Settings. 2nd ed. Belmont: Wadsworth

Lofland J., Snow D., Anderson L., *et al*. (2006) Analyzing Social Settings: A Guide to Qualitative Observation and Analysis. 4th ed. Belmont: Wadsworth

Macdonald K.M. (1995) The Sociology of the Professions. London: SAGE

Malinowski B. (1922) Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea. London: George Routledge & Sons

Manias E., Street A. (2001) Nurse-doctor interactions during critical care ward rounds. Journal of Clinical Nursing 10(4): 442-450

Marx K. ([1867] 1967) Capital: A Critique of Political Economy Vol. I. New York: International Publishers

Maslove D.M., Rizk N., Lowe H.J. (2011) Computerized physician order entry in the critical care environment: a review of current literature. Journal of Intensive Care Medicine 26(3): 165-171

McDonald R., Waring J., Harrison S. (2006) Rules, safety and the narrativisation of identity: a hospital operating theatre case study. Sociology of Health & Illness 28(2): 178-202

McGrath M. (2008) The challenges of caring in a technological environment. Journal of Clinical Nursing 17(8): 1096-1104

Mackintosh N., Sandall J. (2010) Overcoming gendered and professional hierarchies in order to facilitate escalation of care in emergency situations: The role of standardised communication protocols. Social Science & Medicine 71(9): 1683-1686

Medical Act 1983 [online] Available: http://www.legislation.gov.uk/ukpga/1983/54/contents Accessed: 10 February 2014

Melia K.M. (1979) A sociological approach to the analysis of nursing work. Journal of Advanced Nursing 4(1): 57-67

Melia K.M. (1987) Learning and Working: The Occupational Socialization of Nurses. London: Tavistock

Melia K.M. (2001) Ethical issues and the importance of consensus for the intensive care team. Social Science & Medicine 53(6): 707-719

Mesler M.A. (1991) Boundary encroachment and task delegation: clinical pharmacists on the medical team. Sociology of Health & Illness 13(3): 310-331

Metcalfe M.A., Sloggett A., McPherson K. (1997) Mortality among appropriately referred patients refused admission to intensive-care units. Lancet 350(9070): 7-11

Milholland K. (1988) Patient data management systems (PDMS). Computer technology for critical care nurses. Computers in Nursing 6(6): 237-243

Miller S.M. (1952) The participant observer and "over-rapport". American Sociological Review 17(1): 97-99

Milne M. (1980) Training for team care. Journal of Advanced Nursing 5(6): 579-589

Ministry of Health (1962) Progressive Patient Care. Monthly Bulletin 21: 218-226. London: Ministry of Health

Montuori A. (1998) Postmodern systems theory, epistemology, and environment: The challenge of reconceptualization. Best papers of the proceedings of the academy of management conference. Boston: Academy of Management

Moreno R.P., Rhodes A., Donchin Y. (2009) Patient safety in intensive care medicine: the Declaration of Vienna. Intensive Care Medicine 35(10): 1667-1672

Morrison C., Jones M., Blackwell A., *et al*. (2008) Electronic patient record use during ward rounds. Critical Care 12(6): R148

Mossialos E., Dixon A., Figueras J., *et al*. (2002) Funding health care: options for Europe. Maidenhead: Open University Press

Moynihan R., Smith R. (2002) Too much medicine? British Medical Journal 324(7342): 859-860

Mumford E. (1970) Interns: From Students to Physicians. Cambridge, Massahusetts: Harvard University Press

Musson D.M., Helmreich R.L. (2004) Team training and resource management in health care: current issues and future directions. Harvard Health Policy Review 5(1): 25-35

National Health Service (Miscellaneous Amendments Relating to Independent Prescribing) Regulations 2006 No. 913

NHS Management Executive (1993) New World, New Opportunities. London: Department of Health

Ntoumenopoulos G., Presneill J., McElholum M., *et al*. (2002) Chest physiotherapy for the prevention of ventilator-associated pneumonia. Intensive Care Medicine 28(7): 850-856

Nurses, Midwives and Health Visitors Act 1997 [online] Available: http:// www.legislation.gov.uk/ukpga/1997/24/contents Accessed: 10 February 2014

O'Connor P., Campbell J., Newon J., *et al*. (2008) Crew resource management training effectiveness: a meta-analysis and some critical needs. The international journal of aviation psychology 18(4): 353-368

Oandasan I., Nasmith L., San Martin Rodriguez L., *et al*. (2006) Teamwork in Healthcare: Promoting Effective Teamwork in Healthcare in Canada. Ottawa: Canadian Health Services Research Foundation

Osborn J.J., Beaumont J.O., Raison J.C., *et al*. (1968) Measurement and monitoring of acutely ill patients by digital computer. Surgery 64(6): 1057-1070

Ovretveit J., Mathias P., Thompson T. (1997) Interprofessional Working for Health and Social Care. Basingstoke: Palgrave Macmillan Limited

Ovretveit J. (2009) The contribution of new social science research to patient safety. Social Science & Medicine 69(12): 1780-1783

Plato Timaeus 52 AD.

Popernack M. (2006) A critical change in a day in the life of intensive care nurses. Critical Care Nursing Clinics Quarterly 29(4): 362-375

Popovich M.J., Esfandiari S., Boutros A. (2011) A new ICU paradigm: Intensivists as primary critical care physicians. Cleveland Clinical Journal of Medicine 78(10): 697-700

Porter S. (1991) A participant observation study of power relations between nurses and doctors in a general hospital. Journal of Advanced Nursing 16(6): 728-735

Porter S. (1993) Critical realist ethnography: the case of racism and professionalism in a medical setting. Sociology 27(4): 591-609

Powell A.E., Davies H.T. (2012) The struggle to improve patient care in the face of professional boundaries. Social Science & Medicine 75: 807-814

Prowse M., Allen D. (2002) Routine and emergency in the PACU: the shifting contexts of nurse–doctor interaction. In: Allen D., Hughes D. (Eds.) Nursing and the Division of Labour in Healthcare. Basingstoke: Palgrave Macmillan

Rafferty A.M., Clarke S.P., Coles J., *et al*. (2007) Outcomes of variation in hospital nurse staffing in English hospitals: cross-sectional analysis of survey data and discharge records. International Journal of Nursing Studies 44(2): 175

Raison J.C. (1970) Patient monitoring: on-line computing. Postgraduate Medical Journal 46(536): 360-365

Raven R. (1962) Progressive patient care. British Medical Journal 1(5270): 43-44

Reeves S., Rice K., Conn L.G., *et al*. (2009) Interprofessional interaction, negotiation and non-negotiation on general internal medicine wards. Journal of Interprofessional Care 23(6): 633-645

Reeves S., Zwarenstein M., Goldman J., *et al*. (2008) Interprofessional education: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2008, Issue 1. Art. No.: CD002213. DOI: 10.1002/14651858.CD002213.pub2.

Reiser S.J. (1992) The intensive care unit. The unfolding ambiguities of survival therapy. International Journal of Technology Assessment in Health Care 8(3): 382-394

Rhodes A., Moreno R., Azoulay E., *et al*. (2012) Prospectively defined indicators to improve the safety and quality of care for critically ill patients: a report from the Task

Force on Safety and Quality of the European Society of Intensive Care Medicine (ESICM). Intensive Care Medicine 38(4): 598-605

Ridley S., Morris S. (2007) Cost effectiveness of adult intensive care in the UK. Anaesthesia 62(6): 547-554

Ross E., Rink A., Furne F. (2000) Integration or pragmatic coalition? An evaluation of nursing teams in primary care. Journal of Interprofessional Care 14(3): 259-267

Roth J.A. (1963) Information and the control of treatment in tuberculosis hospitals. In: Freidson E. (Ed.) The Hospital in Modern Society. New York: Free Press

Rowan K.M., Kerr J.H., Major E., *et al*. (1993) Intensive Care Society's APACHE II study in Britain and Ireland--II: Outcome comparisons of intensive care units after adjustment for case mix by the American APACHE II method. British Medical Journal 307(6910): 977-981

Rowley E., Waring J. (2011) A Socio-Cultural Perspective on Patient Safety. Surrey: Ashgate

Ryan D.W., Copeland P.F., Miller J., *et al*. (1982) Replanning of an intensive therapy unit. British Medical Journal 285(6355): 1634-1637

Sado A.S. (1999) Electronic medical record in the intensive care unit. Critical Care Clinics 15(3): 499-522

Sanders T., Harrison S. (2008) Professional legitimacy claims in the multidisciplinary workplace: the case of heart failure care. Sociology of Health & Ilness 30(2): 289-308

Scales D.C., Sibbald W.J. (2004) Medical technology in the intensive care unit. Current Opinion in Critical Care 10(4): 238-245

Schatzman L., Strauss A.L. (1973) Field Research. Englewood Cliffs: Prentice-Hall

Seale C. (1999) Quality in qualitative research. Qualitative Inquiry 5(4): 465-478

Seiver A. (2003) Chaos, computers, and critical care. Critical Care Medicine 31(2): 642-644

Sherman H., Castro G., Fletcher M., *et al*. (2009) Towards an International Classification for Patient Safety: the conceptual framework. International Journal for Quality in Health Care 21(1): 2-8

Shortell S.M., Zimmerman J.E., Rousseau D.M., *et al*. (1994) The performance of intensive care units: does good management make a difference? Medical Care 32(5): 508-525

Shubin H W.M. (1966) Efficient monitoring of cardiovascular function in seriously ill patients with a digital computer. Annals of Internal Medicine 65(5): 1153-1154

Smith A. (1776) An Inquiry into the Nature and Causes of the Wealth of Nations. London: W Strahan

Smith V. (2007) Ethnographies of work and the work of ethnographers. In: Atkinson P., Coffey A., Delamont S., *et al*. (Eds.) Handbook of Ethnography. Los Angeles: SAGE

Snelgrove S., Hughes D. (2002) Perceptions of teamwork in acute medical wards. In: Allen D., Hughes D. (Eds.) Nursing and the Division of Labour in Healthcare. London: Palgrave Macmillan

Sommers L.S., Marton K.I., Barbaccia J.C., *et al*. (2000) Physician, nurse, and social worker collaboration in primary care for chronically ill seniors. Archives of Internal Medicine 160(12): 1825-1833

Spencer H. (1893) Principles of Sociology. 3rd ed. London: Williams and Norgate

Spilsbury K., Meyer J. (2004) Use, misuse and non-use of health care assistants: understanding the work of health care assistants in a hospital setting. Journal of Nursing Management 12(6): 411-418

Spradley J.P. (1980) Participant Obsevation. New York: Holt Rinehart and Winston

Stein L.I. (1967) The doctor-nurse game. Archives General Psychiatry 16(6): 699-703

Stein L.I., Watts D.T., Howell T. (1990) The doctor-nurse game revisited. New England Journal of Medicine 322(8): 546-549

Strange F. (1996) Handover: an ethnographic study of ritual in nursing practice. Intensive and Critical Care Nursing 12(2): 106-112

Strauss A. ([1968] 2001) The intensive care unit: its characteristics and social relationships. In: Strauss A. (Ed.) Professions, Work and Careers. New Brunswick: Transaction

Strauss A., Fagerhaugh S., Suczet B. (1985) The Social Organisation of Medical Work. Chicago: University of Chicago Press

Strauss A., Schatzman L., Bucher R., *et al*. (1964) Negotiated order and the co-ordination of work. In: Strauss A., Schatzman L., Bucher R., *et al*. (Eds.) Psychiatric Ideologies and Institutions. London: Collier-Macmillan

Strauss A.L. (1978) Negotiations: Varieties, Contexts, Processes, and Social Order. Francisco: Jossey-Bass

Strong P., Robinson J. (1990) The NHS Under New Management. Milton Keynes: Open University Press

Summerton J., Berner B. (2003) Constructing Risk and Safety in Technological Practice. London: Routledge

Sutton J., Valentine J., Rayment K. (2004) Staff views on the extended role of health care assistants in the critical care unit. Intensive & Critical Care Nursing 20(5): 249-256

Svensson R. (1996) The interplay between doctors and nurses—a negotiated order perspective. Sociology of Health & Illness 18(3): 379-398

Timmermans S., Oh H. (2010) The continued social transformation of the medical profession. Journal of Health and Social Behavior 51(1 suppl): S94-S106

Timmons S., East L. (2011) Uniforms, status and professional boundaries in hospital. Sociology of Health & Illness 33(7): 1035-1049

Tiryakian E.A. (2009) For Durkheim: Essays in Historical and Cultural Sociology. Surrey: Ashgate

Treacher D. (2009) The development of critical care in the UK. Retrieved from http://www.library.nhs.uk/theaters/page.aspx?pagename=ED16 on 13 March 2010

United Nations (2007) World Population Ageing 2007. Geneva: United Nations

Valentin A., Ferdinande P. (2011) Recommendations on basic requirements for intensive care units: structural and organizational aspects. Intensive Care Medicine 37(10): 1575-1587

Vincent C. (2009) Social scientists and patient safety: critics or contributors? Social Science & Medicine 69(12): 1777-1779

Vincent C., Davy C., Esmail A., *et al*. (2006) Learning from litigation. The role of claims analysis in patient safety. Journal of Evaluation in Clinical Practice 12(6): 665-674

Vincent C., Neale G., Woloshynowych M. (2001) Adverse events in British hospitals: preliminary retrospective record review. British Medical Journal 322(7285): 517-519

Vincent J.l., Singer M. (2010) Critical care, advances and future perspectives. Lancet 376(9749): 1354-1361

Vincent J.L., Suter P., Bihari D., *et al*. (1997) Organization of intensive care units in Europe: lessons from the EPIC study. Intensive Care Medicine 23(11): 1181-1184

Walby S, Greenwell J., Mackay L., *et al*. (1994) Medicine and Nursing: Professions in a Changing Health Service. London: Sage Publications

Weiss M.C., Sutton J. (2009) The changing nature of prescribing: pharmacists as prescribers and challenges to medical dominance. Sociology of Health & Illness 31(3): 406-421

West E., Mays N., Rafferty A.M., *et al*. (2009) Nursing resources and patient outcomes in intensive care: a systematic review of the literature. International Journal of Nursing Studies 46(7): 993

West M.A., Borrill C., Dawson J., *et al*. (2002) The link between the management of employees and patient mortality in acute hospitals. International Journal of Human Resource Management 13(8): 1299-1310

Wheelan S.A., Burchill C.N., Tilin F. (2003) The link between teamwork and patients' outcomes in intensive care units. American Journal of Critical Care 12(6): 527-534

Wikstrom A., Larsson U. (2004) Technology-an actor in the ICU: a study in workplace research tradition. Journal of Clinical Nursing 3(5): 555–561

Williams S., Coombs M., Lattimer V. (2003) Workforce Planning for Critical Care. London: Department of Health

Wilson R.M., Runciman W.B., Gibberd R.W., *et al*. (1995) The quality in Australian health care study. Medical Journal of Australia 163(9): 458-471

Wilson W.J., Chaddha A. (2009) The role of theory in ethnographic research. Ethnography 10(4): 549-564

Wintrob R.M. (1969) An inward focus: a consideration of psychological stress in fieldwork. In: Henry F., Saberwal S. (Eds.) Stress and Response in Fieldwork. New York: Hold, Rinehart adn Winston. Cited in: Hammersley M, Atkinson P (2007) Ethnography: Principles in Practice. London: Routledge

World Health Organisation (1999) Health 21: The Health for all Policy Framework for the WHO European Region. European Health for All Series No 6. Copenhagen: WHO

World Health Organisation (2008) Assuring the quality of health care in the European Union. Copenhagen: European Observatory on Health Systems and Policies

Xenophon (1632) Cyropaedia VIII 2.5. Translated out of Greek into English by Philemon Holland. London: John Legat

Xyrichis A. (2005) Unravelling Teamwork in Intensive Care: Nursing Perspectives. Unpublished MSc Dissertation London: King's College London

Xyrichis A., Lowton K. (2008) What fosters or prevents interprofessional teamworking in primary and community care? A literature review. International Journal of Nursing Studies 45(1): 140-153

Xyrichis A., Ream E. (2008) Teamwork: a concept analysis. Journal of Advanced Nursing 61(2): 232-241

Zerubavel E. (1979) Patterns of Time in Hospital Life. A Sociological Perspective. Chicago: University of Chicago Press

Zhan C., Miller M.R. (2003) Excess length of stay, charges, and mortality attributable to medical injuries during hospitalization. Journal of the American Medical Association 290(14): 1868-1874

Zussman R. (1992) Intensive Care: Medical Ethics and the Medical Profession. Chicago: University of Chicago Press

Appendix One: Sampling frame

32 Acute Care Trusts identified in London

1. Barking, Havering and Redbridge Hospitals NHS Trust

Queens Hospital, Rom Valley Way, Romford, Essex, RM7 0AG

Tel: 01708 345 533

2. Barnet and Chase Farm Hospitals NHS Trust

Barnet General Hospital, Wellhouse Lane, Barnet, Hertfordshire, EN5 3DJ

Tel: 0845 111 4000

3. Barts and The London NHS Trust

Trust Offices, Whitechapel, The Royal London Hospital, Whitechapel, London, Greater London, E1 1BB

Tel: 020 7377 7000

4. Bromley Hospitals NHS Trust

The Princess Royal University, Farnborough Common, Orpington, Kent, BR6 8ND

Tel: 01689 863000

5. Chelsea and Westminster Hospital NHS Foundation Trust

Chelsea and Westminster Hospital, 369 Fulham Road, London, Greater London, SW10 9NH

Tel: 020 8746 8000

6. Ealing Hospital NHS Trust

Uxbridge Road, Southall, Middlesex, UB1 3HW

Tel: 020 8967 5000

7. Epsom and St Helier University Hospitals NHS Trust

St Helier Hospital, Wrythe Lane, Carshalton, Surrey, SM5 1AA

Tel: 020 8296 2000

8. Great Ormond Street Hospital For Children NHS Trust

Great Ormond Street, London, Greater London, WC1N 3JH

Tel: 020 7405 9200

9. Guy's and St Thomas' NHS Foundation Trust

Trust Offices, Guy's Hospital, St Thomas Street, London, Greater London, SE1 9RT

Tel: 020 7188 7188

10. Hammersmith Hospitals NHS Trust

Hammersmith Hospital, Du Cane Road, London, Greater London, W12 0HS

Tel: 020 8383 1000

11. Homerton University Hospital NHS Foundation Trust

Homerton Row, London, Greater London, E9 6SR

Tel: 020 8510 5555

12. King's College Hospital NHS Foundation Trust

Denmark Hill, London, Greater London, SE5 9RS

Tel: 020 3299 9000

13. Kingston Hospital NHS Trust

Galsworthy Road, Kingston Upon Thames, Surrey, KT2 7QB

Tel: 020 8546 7711

14. Mayday Healthcare NHS Trust

Mayday University Hospital, London Road, Thornton Heath, Surrey, CR7 7YE

Tel: 020 8401 3000

15. Moorfields Eye Hospital NHS Foundation Trust

162 City Road, London, Greater London, EC1V 2PD

Tel: 020 7253 3411

16. Newham University Hospital NHS Trust

Newham General Hospital, Glen Road, London, Greater London, E13 8SL

Tel: 020 7476 4000

17. North Middlesex University Hospital NHS Trust

Sterling Way, London, Greater London, N18 1QX

Tel: (020) 8887 2000

18. North West London Hospitals NHS Trust

Northwick Park Hospital, Watford Road, Harrow, Middlesex, HA1 3UJ

Tel: 020 8864 3232

19. Queen Elizabeth Hospital NHS Trust

Ranken House, Stadium Road, Woolwich, London, Greater London, SE18 4QH

Tel: 020 8836 6000

20. Queen Mary's Sidcup NHS Trust

Queen Mary's Hospital, Frognal Avenue, Sidcup, Kent, DA14 6LT

Tel: 020 8302 2678

21. Royal Brompton and Harefield NHS Trust

Royal Brompton Hospital, Sydney Street, London, Greater London, SW3 6NP

Tel: 020 7352 8121

22. Royal Free Hampstead NHS Trust

Royal Free Hospital, Pond Street, London, Greater London, NW3 2QG

Tel: 020 7794 0500

23. Royal National Orthopaedic Hospital NHS Trust

Brockley Hill, Stanmore, Middlesex, HA7 4LP

Tel: 020 8954 2300

24. St George's Healthcare NHS Trust

St George's Hospital, Blackshaw Road, Tooting, London, Greater London, SW17 0QT

Tel: 020 8672 1255

25. St Mary's NHS Trust

Acrow Building, Praed Street, London, Greater London, W2 1NY

Tel: 020 7886 6666

26. The Hillingdon Hospital NHS Trust

Pield Heath Road, Uxbridge, Middlesex, UB8 3NN

Tel: 01895 238282

27. The Lewisham Hospital NHS Trust

University Hospital Lewisham, Lewisham High Street, London, Greater London, SE13 6LH

Tel: 020 8333 3000

28. The Royal Marsden NHS Foundation Trust

Fulham Road, London, Greater London, SW3 6JJ

Tel: 020 7352 8171

29. The Whittington Hospital NHS Trust

St. Marys Wing, Highgate Hill, London, Greater London, N19 5NF

Tel: 020 7272 3070

30. University College London Hospitals NHS Foundation Trust

250 Euston Road, London, Greater London, NW1 2PG

Tel: 0845 155 5000

31. West Middlesex University Hospital NHS Trust

Twickenham Road, Isleworth, Middlesex, TW7 6AF

Tel: 020 8560 2121

32. Whipps Cross University Hospital NHS Trust

Whipps Cross Hospital, Whipps Cross Road, London, Greater London, E11 1NR

Tel: 020 8539 5522

NHS Trusts in London with an adult general ICU

	Hospital status -teaching/ non-teaching -foundation/ non-foundation -bed capacity (large/medium)	**Healthcare Commission** rating on quality of services (HC, 2008)	**General ICU/HDU** beds available (DH, 2008)	**NHS staff survey** - % hospital staff answering YES in questions 15a,c		**Additional information** collected through staff websites
				15a. Do you work in a team?	15c. Do you work closely with other team members to achieve objectives?	
Barking, Havering and Redbridge Hospitals NHS Trust	LARGE	FAIR	7 ICU 6 HDU 8 combined ICU/HDU	89	88	New Unit (December 2006)
Barnet and Chase Farm Hospitals NHS Trust	LARGE	WEAK	8 ICU 7 HDU	92	90	
Barts and The London NHS Trust	TEACHING	EXCELLENT	16 ICU 6 HDU	96	88	
Bromley Hospitals NHS Trust	MEDIUM	FAIR	7 combined ICU/HDU (4 ICU, 3 HDU)	93	90	

Chelsea and Westminster Hospital NHS Foundation Trust	TEACHING FOUNDATION	GOOD	10 combined ICU/HDU Nursing Development Unit (6 ICU, 4 HDU)	95	90	From Trust website: *"the ICU staff work as a team.."; "nurses provide.. care through primary nursing teams"*. ICU received 3 Charter mark awards (government national award given for excellence in customer service)
Ealing Hospital NHS Trust	SMALL	GOOD	6 combined ICU/HDU	94	91	From Trust website: *"the Trust Board has committed to extending and developing Team Based Working over the next year the ..Trust has commissioned a development programme from Aston Organisation Development commenced February 2006"*
Epsom and St Helier University Hospitals NHS Trust	LARGE	FAIR	9 ICU 9 HDU (Trust website - possibly combined ICU/HDU)	91	89	

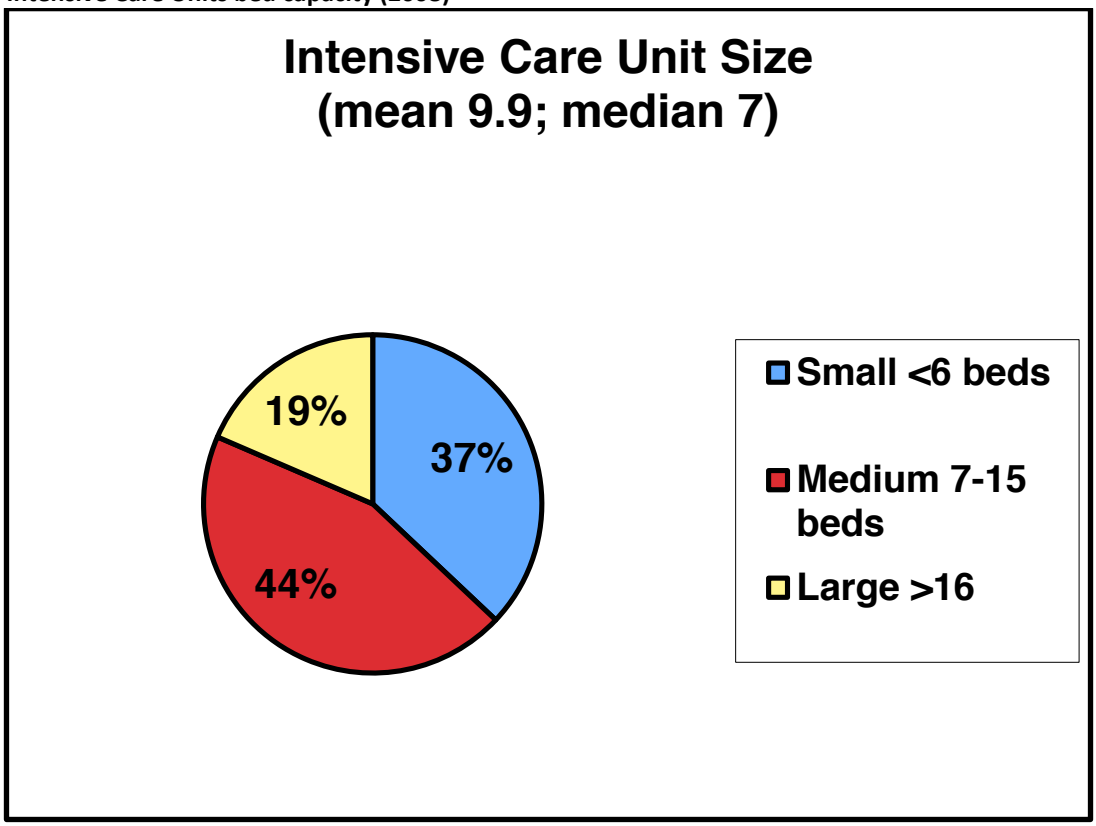
Great Ormond Street Hospital For **Children** NHS Trust	Does not included adult ICU					
Guy's and St Thomas' NHS Foundation Trust	TEACHING FOUNDATION	GOOD	30 ICU(St Thomas) 9 ICU/HDU(Guys) 8 HDU	90	87	One of the largest units in London; both medical and anaesthetist led
Hammersmith Hospitals NHS Trust	TEACHING	GOOD	22 ICU 9 HDU Trust website: 12 ICU (Charring Cross); 16 combined ICU/HDU (Hammersmith)	90	87	From Trust website: *"nurse educators organise multidisciplinary teaching programmes"*
Homerton University Hospital NHS Foundation Trust	SMALL	GOOD	6 combined ICU/HDU Trust website: 10 combined	89	88	
King's College Hospital NHS Foundation Trust	TEACHING	GOOD	14 ICU 8 HDU	91	87	
Kingston Hospital NHS Trust	MEDIUM	GOOD	7 combined ICU/HDU Trust website: 7 ICU, 4 HDU	88	86	

Mayday Healthcare NHS Trust	MEDIUM	FAIR	6 combined ICU/HDU	91	88	
Moorfields **Eye** Hospital NHS Foundation Trust	Does not include adult ICU					
Newham University Hospital NHS Trust	MEDIUM	GOOD	7 combined ICU/HDU	93	86	ICU nurse recruitment from India
North Middlesex University Hospital NHS Trust	MEDIUM	FAIR	6 ICU 3 HDU Trust website: under major redevelopment – planning for new 12 bed ICU unit	93	88	From Trust website: *"our ICU has introduced a range of initiatives .. including greater teamworking between medical and nursing staff"*
North West London Hospitals NHS Trust	LARGE	FAIR	8 ICU 4 HDU/ICU	92	90	
Queen Elizabeth Hospital NHS Trust	MEDIUM	FAIR	4 combined ICU/HDU	91	90	
Queen Mary's Sidcup NHS Trust	SMALL	GOOD	6 combined ICU/HDU	89	88	

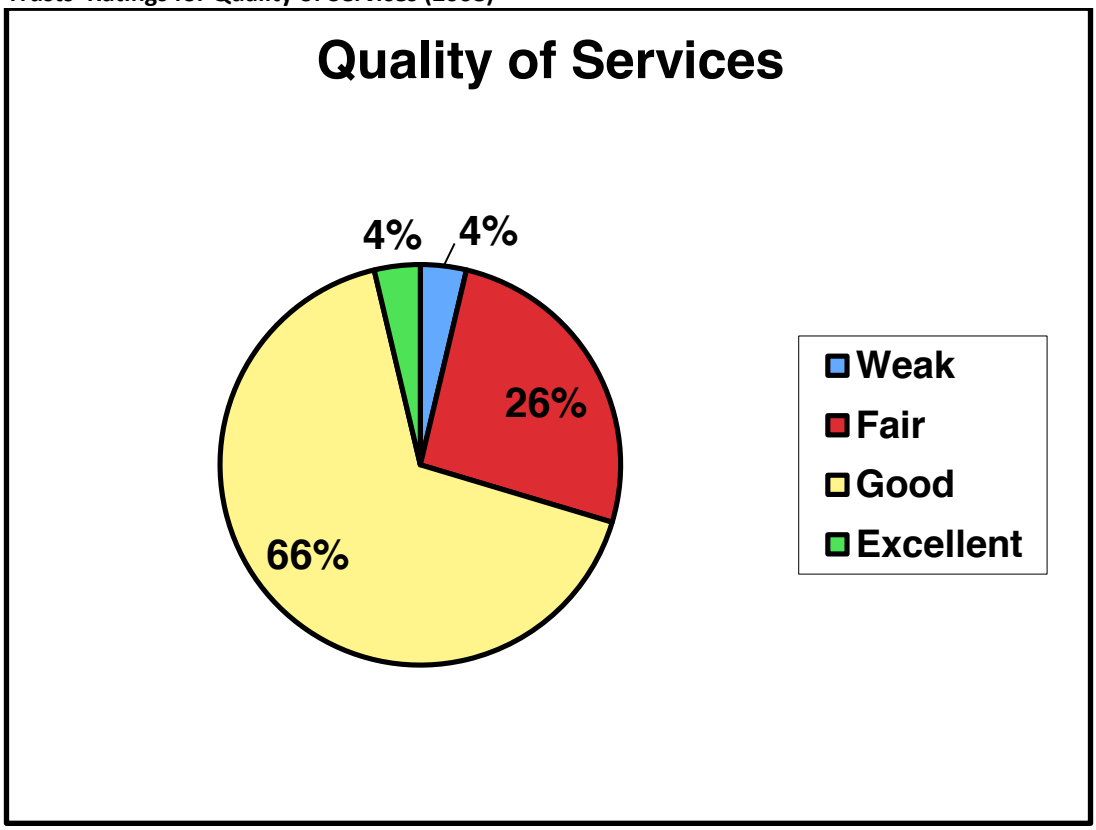
Royal Brompton and Harefield NHS Trust	Heart specialist Trust		Cardiothoracic ICU			
Royal Free Hampstead NHS Trust	TEACHING	GOOD	17 ICU Trust website: 20 critical care beds	94	88	
Royal National **Orthopaedic** Hospital NHS Trust						
St George's Healthcare NHS Trust	TEACHING	GOOD	11 ICU 6 HDU	92	91	
St Mary's NHS Trust		GOOD	11 ICU 21 HDU	N/A	N/A	
The Hillingdon Hospital NHS Trust		GOOD	5 combined ICU/HDU	89	90	
The Lewisham Hospital NHS Trust	MEDIUM	GOOD	9 ICU	90	88	
The Royal **Marsden** NHS Foundation Trust	Cancer specialist Trust					

The Whittington Hospital NHS Trust	MEDIUM	GOOD	4 combined ICU/HDU	89	89	
University College London Hospitals NHS Foundation Trust	TEACHING	GOOD	22 ICU Trust website: 27 ICU	92	88	
West Middlesex University Hospital NHS Trust	SMALL	GOOD	6 ICU 4 HDU	94	91	
Whipps Cross University Hospital NHS Trust	MEDIUM	GOOD	5 ICU	91	90	

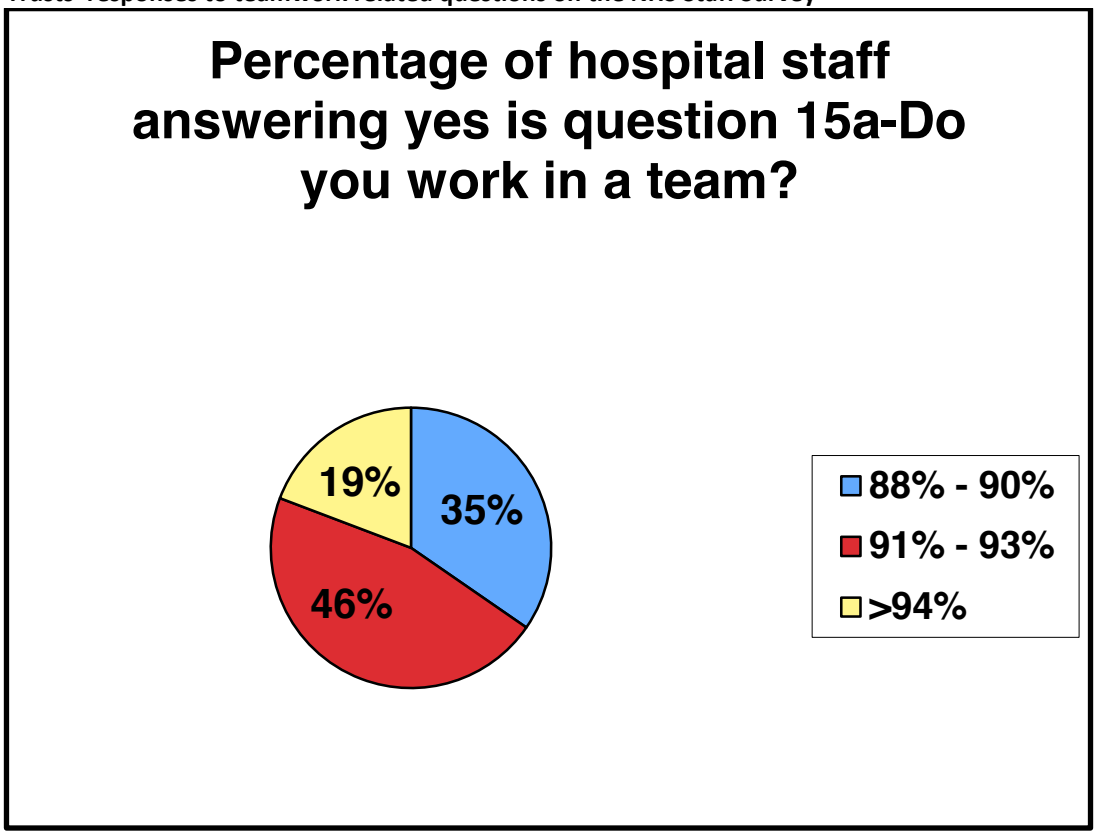
Intensive Care Units bed capacity (2008)



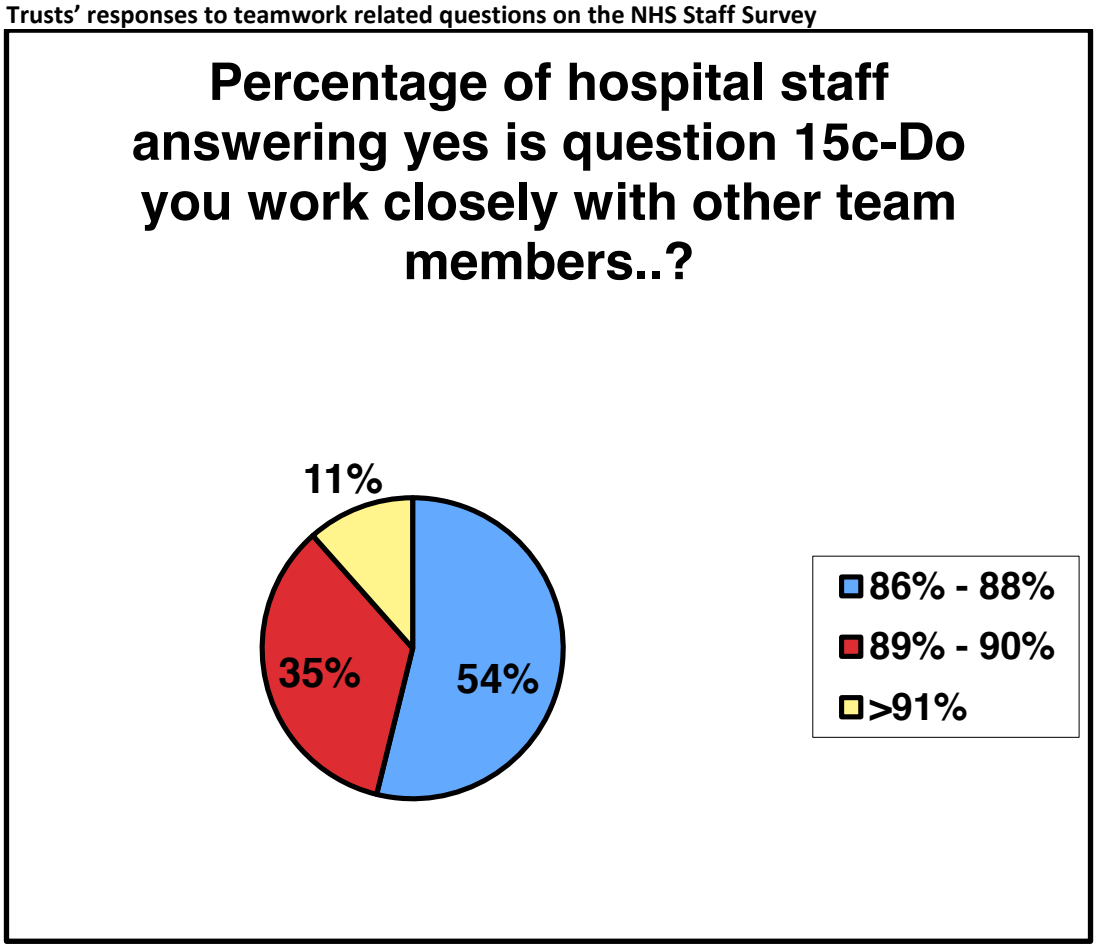
Trusts' Ratings for Quality of Services (2008)



Trusts' responses to teamwork related questions on the NHS Staff Survey



Trusts' responses to teamwork related questions on the NHS Staff Survey



Appendix Two: Research ethics approval

Barking and Havering Local Research Ethics Committee
Room 7, 2nd Floor
Becketts House
2/14 Ilford Hill
Ilford
Essex
IG1 2QX

Telephone: 0208 9265025
Facsimile:

14 February 2008

Mr. A. Xyrichis
King's College London
James Clerk Maxwell Building
57 Waterloo Road
LONDON SE1 8WA

Dear M. Xyrichis

Full title of study: An investigation of interdisciplinary teamwork practices in intensive care units.
REC reference number: 08/H0702/12

The Research Ethics Committee reviewed the above application at the meeting held on 06 February 2008. Thank you for attending to discuss the study.

Ethical opinion

Members were concerned that you would experience difficulties in speaking to consultants but felt this was a very important piece of research.

Members look forward to receiving a final report of your research findings in due course and wish you every success with your study.

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation.

Ethical review of research sites

The Committee has agreed that site-specific assessment is not required for this study.

[Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*

Application	1	15 January 2008
Investigator CV	1	15 January 2008
Protocol	1	15 January 2008
Covering Letter	1	15 January 2008
Interview Schedules/Topic Guides	1	15 January 2008
Advertisement	1	15 January 2008
Letter of invitation to participant	1	15 January 2008
Participant Information Sheet	1	15 January 2008
Participant Consent Form	1	15 January 2008
Supervisor's CV		15 January 2008

R&D approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final approval from the R&D office for the relevant NHS care organisation.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

a) Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.
b) Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
c) Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
d) Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
e) End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nationalres.org.uk .

08/H0702/12	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Mrs JR IrwinHunt
Chair

Email: janet.carter@redbridge-pct.nhs.uk

Enclosures: ***List of names and professions of members who were present at the meeting and those who submitted written comments***
Standard approval conditions [SL-AC1 for CTIMPs, SL-AC2 for other studies]
Site approval form (SF1)

Barking and Havering Local Research Ethics Committee

Attendance at Committee meeting on 06 February 2008

Mrs. J. IrwinHunt	*Chair*
Dr. T. Bland	*Lay Member*
Mr. C. Chowdhury	*ENT Consultant*
Mr. Ghattura	*Lay Member*
Mr. A. Jabbari	*Lay Member*
Dr. D. Lloyd	*Lay Member*
Mrs. C. McTaggart	*Specialist Nurse Practitioner*
Ms. L. Royan	*Consultant Clinical Psychiatrist*
Dr. O. Sanomi	*GP*
Dr. S, Srikumar	*Consultant Psychiatrist*
Ms. E. Visentin	*Research Nurse*

Appendix Three: Study invitation, information sheet and poster

(Version 1: 15 January 2008)

KING'S College LONDON
University of London

Invitation letter for research project entitled:

Teamwork in Intensive Care Units

Dear colleague,

My name is Andreas Xyrichis and I am a PhD student at King's College London. With this letter I would like to invite you to participate in the project I am undertaking at your unit where I will be investigating teamwork practices.

This study is conducted in response to recent research attention given to the area of teamwork in healthcare settings and in accordance with various Department of Health publications advocating the development of collaborative practices across the NHS. With this project it is expected that knowledge and understanding of team practices in ICU will be enhanced, in order to provide suggestions and guidance for promoting team performance thus potentially improving working experience and patient outcomes.

During my visits at the unit, I will be observing how various professionals interact during day and night shifts, including potential problems they may face, and understand how mechanisms to overcome such problems and promote collaborative work are developed. I would like to point out that my aim is **not** to evaluate your practice but rather learn from your knowledge and expertise about the various issues that may influence team function in ICU. I can ensure you that all information that you provide will be treated in the strictest confidence and any reports produced as part of this research will be anonymous. Finally, please read carefully the participant information sheet I enclose, which gives you more information about the project.

If you would like to discuss further information about this study please do not hesitate to contact me by email, post, or on the phone number provided at the end of this letter. Many thanks for your time.

Yours sincerely,

Andreas Xyrichis

Andreas Xyrichis
Chief Investigator

tel: 020 7848 3927
email: andreas.xyrichis@kcl.ac.uk

King's College London, FNSNM
James Clerk Maxwell Building
57 Waterloo Road
London, SE1 8WA

Participant Information Sheet
(Version 1: 15 January 2008)

KING'S College LONDON
University of London

Teamwork in Intensive Care Units

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. This information sheet is provided to you to inform you of the purpose and nature of the study. Please take the time to read this information carefully and feel free to discuss with others if you wish and take time to consider whether you wish to participate.

- Part 1 tells you the purpose of this study and what taking part will involve.
- Part 2 gives you more detailed information about the conduct of the study.

What is the background and purpose of the study?
Intensive Care Units (ICUs) have been reported as complex areas with high levels of instability. In that context, teamwork is considered as a major component of safe, holistic, and effective care. Research has revealed that teamwork can potentially offer beneficial outcomes for patients in the form of reduced complications, readmissions, length of stay, and mortality rates; for staff by improving job satisfaction and wellbeing; and for healthcare organisations in the form of reduced costs, and improved recruitment and retention of staff. However, within ICUs research has mostly focused on doctor–nurse interaction rather on the interdisciplinary team, with less research conducted in the UK's healthcare context. Moreover, knowledge regarding the functioning of teams in ICUs remains minimal. This research study will endeavour to address these issues. The findings from this study are expected to advance our understanding of interdisciplinary teamwork within the ICU's complex setting, inform the development of realistic suggestions for facilitating team practices, and extend teamwork theory.

Why have I been chosen?
For the purpose of this study healthcare professionals associated with ICUs are sought. I am interested in observing everyday interactions between different professional staff, of different seniority and ethnic backgrounds, men and women, full-time and part-time. My aim is to understand the social processes that constitute effective teamwork and appreciate the diversity of views regarding interdisciplinary work.

Do I have to take part?
No, if you do not wish to. Taking part in this study is entirely voluntary; it is up to you to decide whether you wish to take part. If you do decide to participate you will be required to sign a consent form but you will still be free to withdraw at any time without being questioned.

What if I want to take part?
With your permission I will be present at various times throughout your shift observing interactions between ICU staff e.g. during patient handover, and ward rounds. Moreover, you may be asked to clarify queries I may have about the process of ICU work. My aim is to cause minimal disruption to practice and so I will only be present at times that you feel comfortable with. The purpose of my observation will **not** be to evaluate your practice. Rather I will focus in understanding how different professionals engage in collaborative practice, the problems they face, and their mechanisms for overcoming such problems.

What are the possible benefits of taking part?
The information you will provide will help improve our understanding of how teamwork is achieved in ICUs which may fuel recommendations to practice and policy level for enhancing team performance and ultimately improving the quality of patient services and professionals' working experience and wellbeing.

Will my taking part in the study be kept confidential?
Yes. Any information collected will be kept confidential. Further details are included in Part 2.

This completes Part 1 of the information sheet. If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What if there is a problem?
Due to the non-invasive nature of this project there are no special compensation arrangements, although King's College London indemnifies its staff against negligence. However, if you have any concerns about the study you should contact me on the information available at the end of this information sheet.

Will my taking part in the study be kept confidential?
Any information collected about you during the project will be kept in the strictest confidence and anonymity is assured both in the analysis and dissemination of the findings. If quotes or extracts are used I will endeavour that these do not identify you in any way. Moreover, any data collected will be kept in a locked file cabinet and on a password protected computer accessed only by me.

What will happen to the results of the research study?
The findings from the study will be reported in the form of a thesis that forms part of the award of PhD Nursing, King's College London. A summary of the findings will also be provided to you. Finally, findings from the study will be published in a health related journal.

Who has reviewed the study?
This study is part of an educational degree and it will be subject by ongoing review by my academic supervisors. In addition, the study was given a favourable ethical opinion for conduct in the NHS by Barking and Havering Research Ethics Committee.

What if I have any questions?
If you have any questions or other concerns about the study please do not hesitate to contact me at:

Andreas Xyrichis
King's College London
FNSNM, James Clerk Maxwell Building, 57 Waterloo Road,
London SE1 8WA

Tel: 020 7848 3927
email:andreas.xyrichis@kcl.ac.uk

I would like to thank you for taking the time to consider participating in this project

Research Project

KING'S College LONDON
University of London

Teamwork in Intensive Care Units

How do ICU professionals conceptualise their team?

What are the processes by which teamwork is accomplished?

Who benefits from teamwork?

Your help is needed!

If you are a healthcare professional associated with the ICU please make **your opinion** count by participating in the research taking place at your unit.

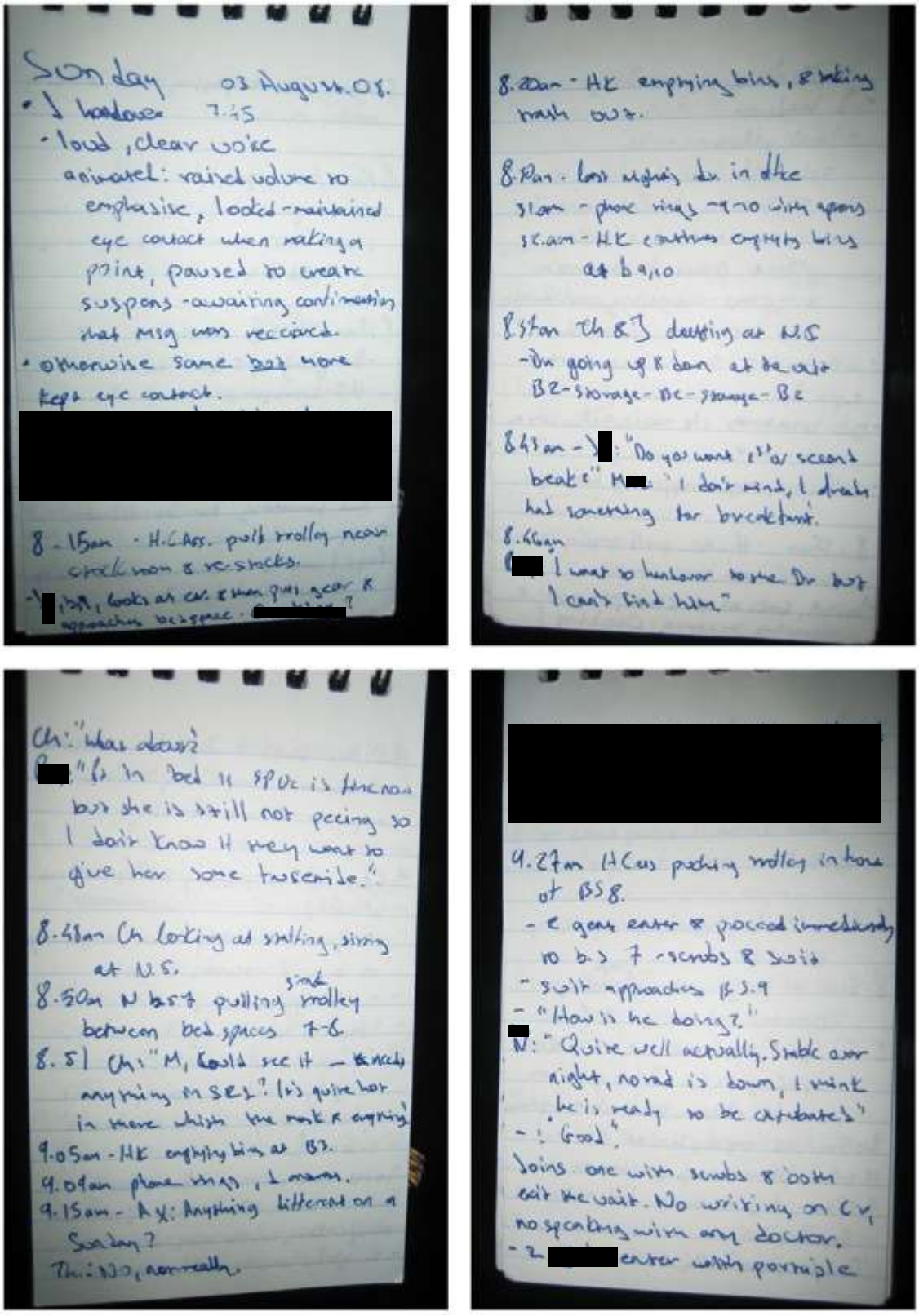
For further information and a chance to participate please contact: **Andreas Xyrichis**

King's College London, FNSNM
James Clerk Maxwell Building
57 Waterloo Road
London, SE1 8WA
andreas.xyrichis@kcl.ac.uk
020 7848 3927

Many thanks!

Appendix Four: Examples of contemporaneous fieldnotes

Contemporaneous notes (jottings) made over one observation visit at Riverview South ICU



Sunday 03 August 08.
- 1 handover 7.15
- loud, clear voice
animated: raised volume to emphasise, looked - maintained eye contact when making a point, paused to create suspens - awaiting confirmation that msg was received.
- otherwise same but more kept eye contact.

[redacted]

8 - 15am - H.Ass. pulls trolley near clock room & re-stocks.
- [redacted] 8.38, looks at cx. exam, puts gear & approaches bedspace - [redacted]?

8.20am - HK emptying bins, & taking trash out.

8.Ram - lost nights dx in dtce
8.1am - phone rings - 9-10 with apnea
8.2am - HK continues emptying bins at b 9,10

8.5ish Th & J chatting at N.S
- Dr going up & down at the side
B2 - storage - B1 - storage - B2

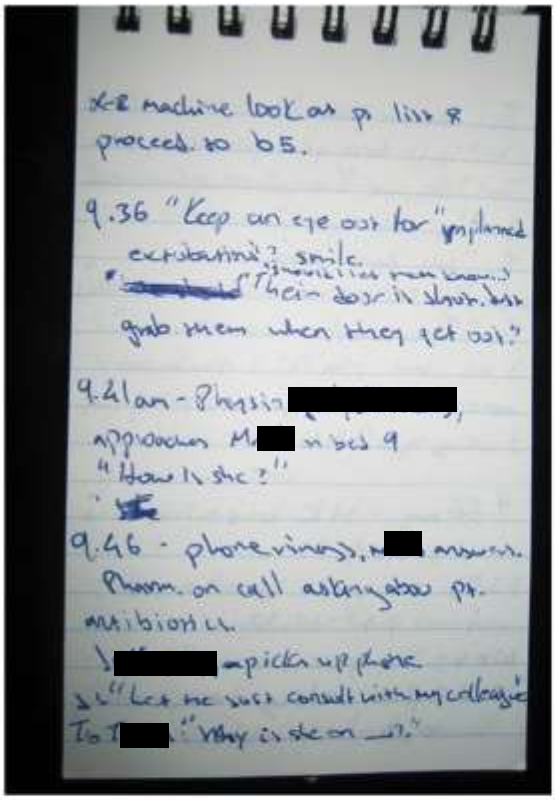
8.43am - [redacted]: "Do you want a 'a' or second breakf" M[redacted]: "I don't mind, I think had something for breakfast."
8.46am
[redacted] I want to handover to the Dr but I can't find him."

Ch: "what about?
[redacted] "B in bed 11 SPOz is fine now but she is still not pecing so I don't know if they want to give her some furosemide."

8.48am Ch looking at staffing, sitting at N.S.
8.50am N b5 & pulling sink trolley between bed spaces 7-8.
8.51 Ch: "M, could see it - [redacted] anything on SE2". It's quite hot in there whilst the mask & engine
9.05am - HK emptying bins at B3.
9.09am phone rings, 1 answ.
9.15am - AY: Anything littered on a Sunday?
Th.: No, not really.

[redacted]

9.27am HCAs packing trolley in base of BS8.
- 2 gowns enter & proceed immediately to b.s 7 - scrubs & boots
- suit approaches @ 3.9
- "How is he doing?"
N: "Quite well actually. Stable over night, no rad is down, I think he is ready to be extubated."
- "Good".
Joins one with scrubs & both exit the unit. No writing on Cx, no speaking with any doctor.
- 2 [redacted] enter with permiss

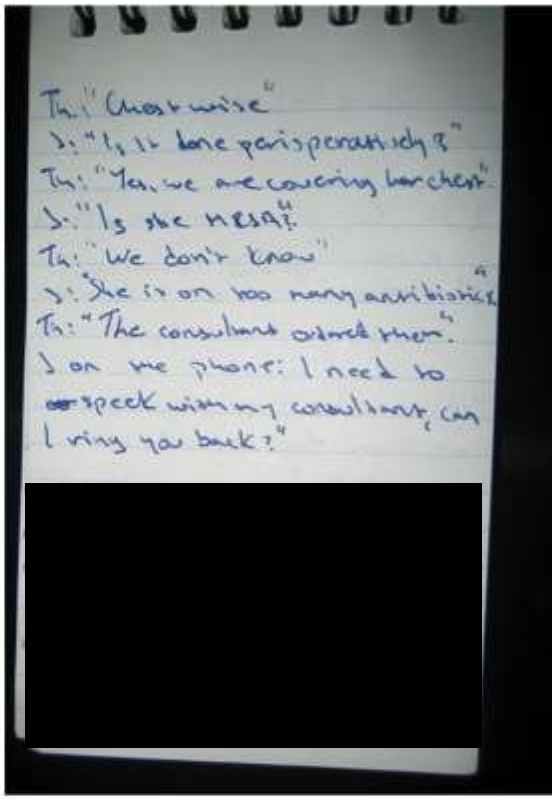


ICE machine look as pt lists & proceeds to b5.

9.36 "Keep an eye out for" unplanned extubation? smile.
"Their door is shut, but grab them when they get out."

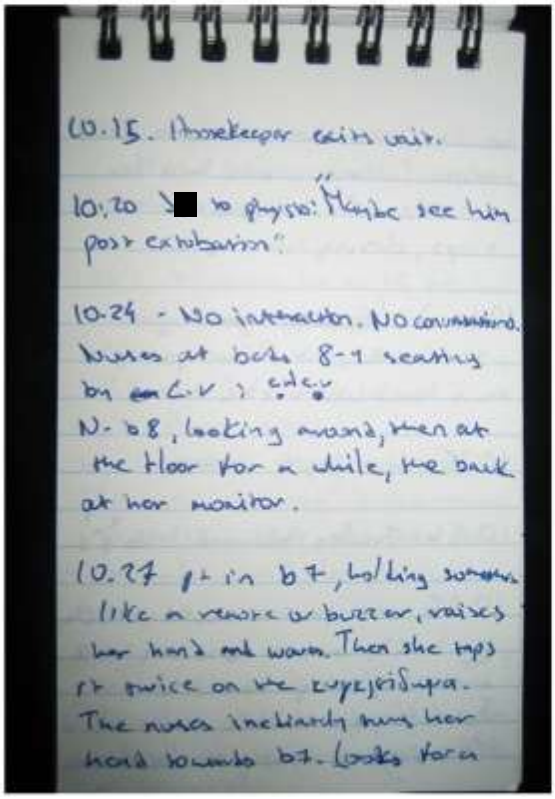
9.41am - Physio [redacted], approaches M[redacted] in bed 9
"How is she?"
[redacted]

9.46 - phone rings, [redacted] answers. Pharm. on call asking about pt. antibiotics.
[redacted] picks up phone.
J: "Let me just consult with my colleague"
To [redacted]: "Why is she on __?"



Th: "Chest wise"
J: "Is it bone perioperatively?"
Th: "Yes, we are covering her chest"
J: "Is she MRSA?"
Th: "We don't know"
J: "She is on too many antibiotics"
Th: "The consultant asked them"
J on the phone: I need to speak with my consultant, can I ring you back?"

[redacted]

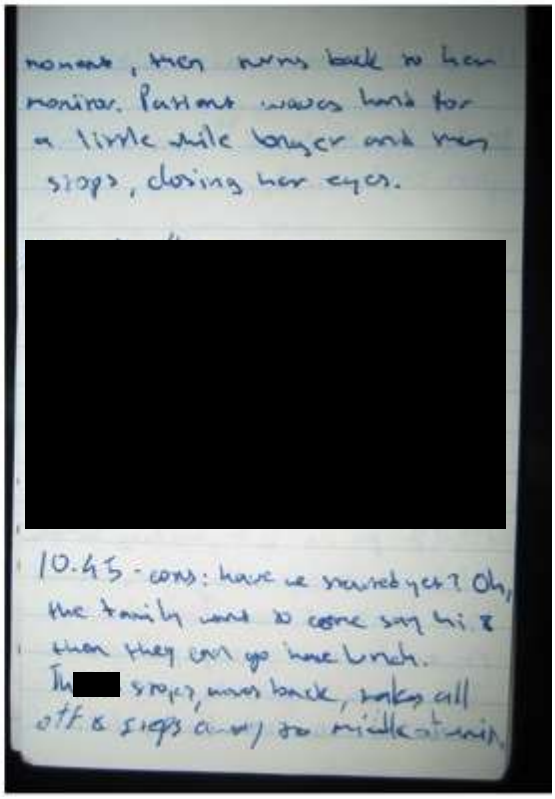


10.15. Housekeeper exits unit.

10.20 J[redacted] to physio: "Maybe see him post extubation"

10.24 - No interaction. No communication. Nurses at desks 8-9 seating by [redacted] C.V.C etc.
N-08, looking around, then at the floor for a while, then back at her monitor.

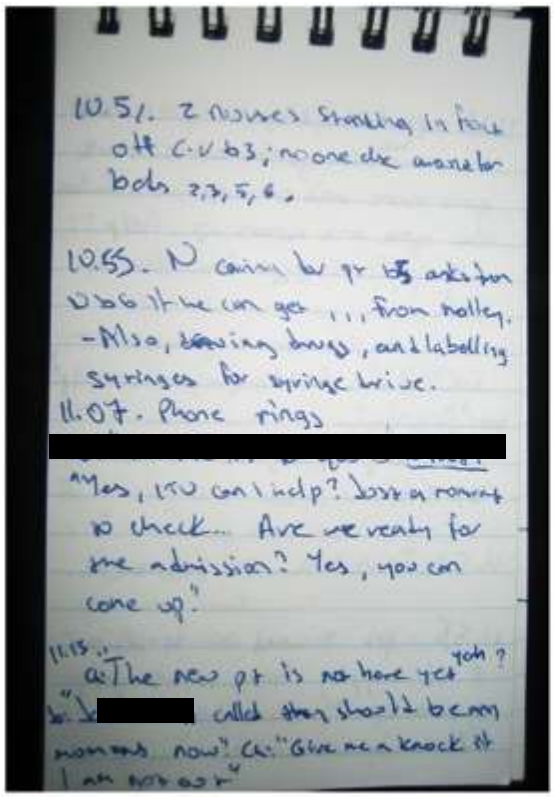
10.27 pt in b7, holding something like a remote or buzzer, raises her hand and waves. Then she taps it twice on the eye/glasses. The nurse instantly turns her head towards b7. Looks for a



moment, then turns back to her monitor. Patient waves hand for a little while longer and then stops, closing her eyes.

[redacted]

10.45 - cons: have we received yet? Oh, the family want to come say hi & then they can go have lunch.
Th[redacted] stops, turns back, takes call off & steps away to middle of unit.



10.5/. 2 nurses standing in front of C.V bay; no one else available bays 2, 3, 5, 6.

10.55. N came to pt [redacted] asking if we can get ... from trolley. -Also, drawing drugs, and labelling syringes for syringe driver.

11.07. Phone rings [redacted]

"Yes, ICU can I help? Just a moment to check... Are we ready for the admission? Yes, you can come up."

11.15. a: The new pt is on here yet, yeh?

b: [redacted] called they should be here momentarily now." a: "Give me a knock if I am not out."

11.18 pt from A&E comes up escorted by [redacted] nurse. Go to bay 12. M goes over and puts gear on. [redacted] also goes and scrubs up. Help with positioning pt from trolley to bed.

- X-ray [redacted] X-ray come & go to bay for X-ray. N to me: "would you need any help?" me: "Possibly."

[redacted]

11.50. Finished with Pico & CVC.

11.55 pt Braves NO de-saturate & BP dropping fast. N 55 gets scared up: "R U alright?" "He's done six before"

BP still dropping. Quickly goes room and dropper and CVC DP available.

12.10 [redacted]

12.13 [redacted]

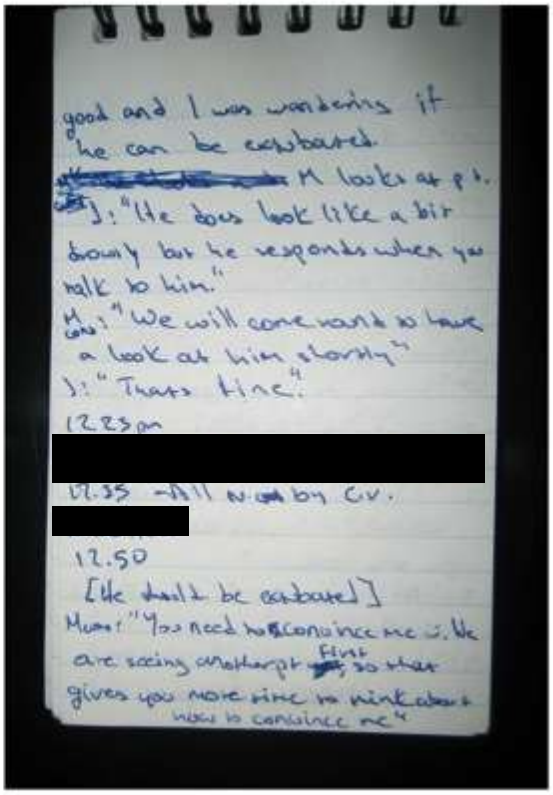
J: "[redacted], [redacted] is getting quite annoyed by the tube!"

Th: "What did [redacted] said?"

J: "I have to seen her to ask her actually" "I just did answer yes and look..."

Th: "Ah, there she is." [redacted]

J: "I was just telling Th. that he is doing very well and his gases are



good and I was wondering if he can be extubated [redacted] M looks at pt.

J: "He does look like a bit drowsy but he responds when you talk to him."

M (cont): "We will come round to have a look at him shortly."

J: "That's fine."

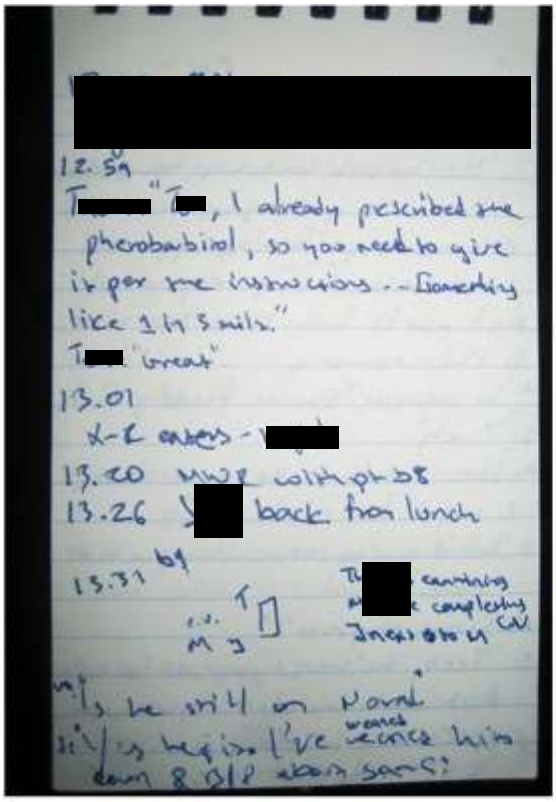
12.23am [redacted]

12.35 -All N [redacted] by CV. [redacted]

12.50

[He should be extubated]

Mum: "You need to convince me 1st. We are seeing another pt first, so that gives you more time to think about how to convince me."



[redacted]

12.59

T [redacted] "T [redacted], I already prescribed the phenobarbitol, so you need to give it per the instructions - Something like 1 in 3 mils."

T [redacted] "great"

13.01

X-R enters - [redacted]

13.20 more coffee

13.26 [redacted] back from lunch

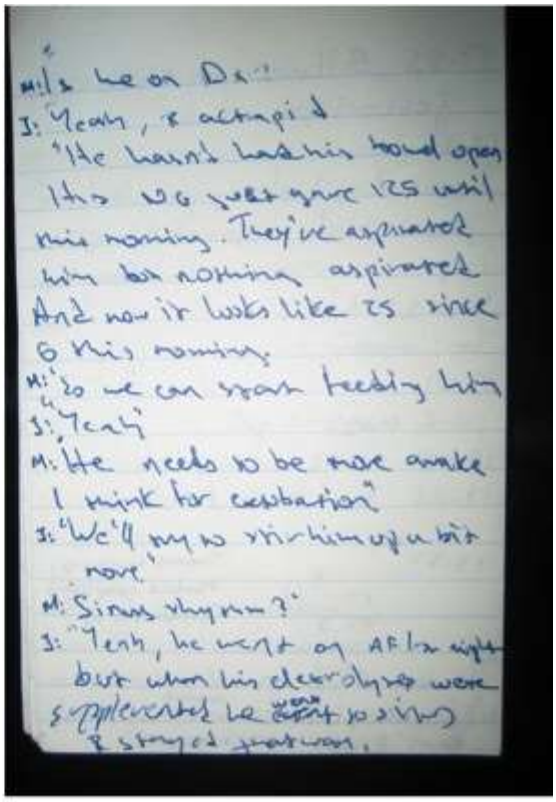
13.31 by

[redacted] carrying on completing CV

M J

M: "Is he still on Nurofen?"

J: "I'll [redacted] is he? I've reduced his down 8 OR about 5am?"



M: "Is he on Ds?"

J: "Yeah, I actually 'The learnt to keep his mouth open this AG just gave it's will this morning. They've aspirated him for nothing aspirated And now it looks like it's since 6 this morning.

M: "So we can start feeding him"

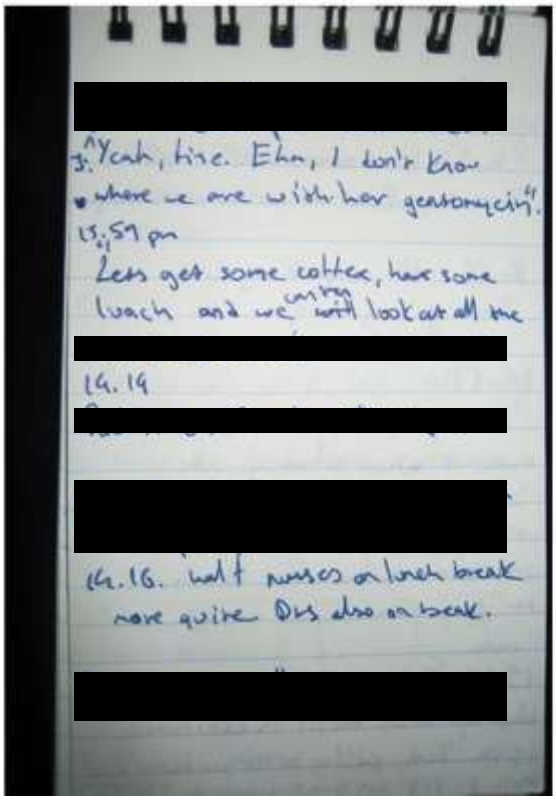
J: "Yeah"

M: "He needs to be more awake I think for extubation"

J: "We'll try to rev him up a bit more."

M: "Since when?"

J: "Yeah, he went on AF 1a night but when his electrolytes were supplemented he went to sinus & stayed that way."



[redacted]

J: "Yeah, fine. Ehm, I don't know where we are with her gastronomy."

15.59 pm

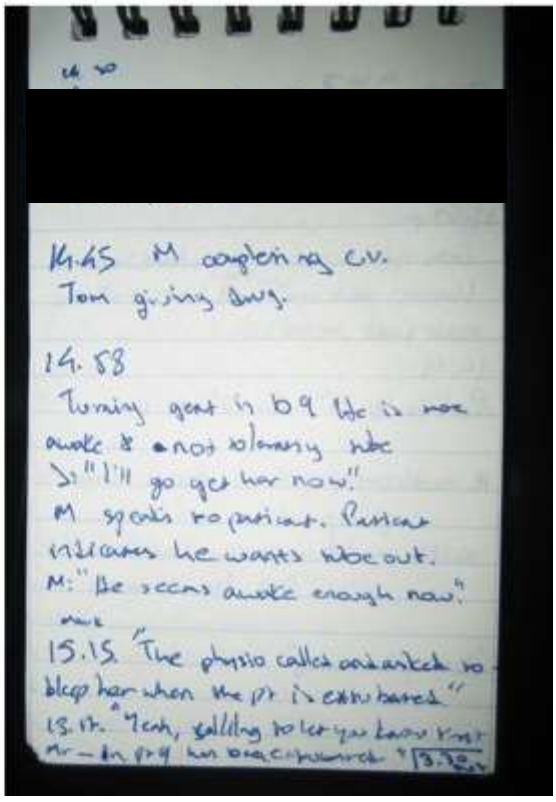
Let's get some coffee, have some lunch and we can with look at all the [redacted]

14.14 [redacted]

[redacted]

14.16. half nurses on lunch break more quite Drs also on break.

[redacted]



[redacted]

14.45 M completing C.V.

Tom giving Dwg.

14.58

Turning great is 69 He is more awake & not voluntary tube

J: "I'll go get her now."

M speaks to patient. Patient indicates he wants tube out.

M: "He seems awake enough now."

15.15 "The physio called and asked to bleep her when the pt is extubated"

15.17 "Yeah, calling to let you know that Mr - the pt has been extubated" 15.30

Appendix Five: Examples of memos, surfacing analytic ideas

Organisation of work?

On initial examination, the work in ICU appears to be organised through a formal division of labour. The work is divided into different parts, allocated to different professional roles, which different professionals partake. Ultimate authority over patient care is held by the consultant who takes on the role of the leader, supported by other professionals. Some role boundaries are actively created and reproduced through discursive techniques (rhetorical devices). Other role boundaries can become blurry, can shift, and aspects of the work are re-distributed through interaction. Shifting is found to occur at different boundaries of professional interaction. While boundary blurring is sometimes genuine and is in response to the exigencies of the work environment, at other times it appears artificial and could serve as a strategy for occupational enhancement. While some tasks are open to re-distribution others are not, which lead to various degrees of dispute. Examples include decision-making and prescribing.

Nursing concerns?

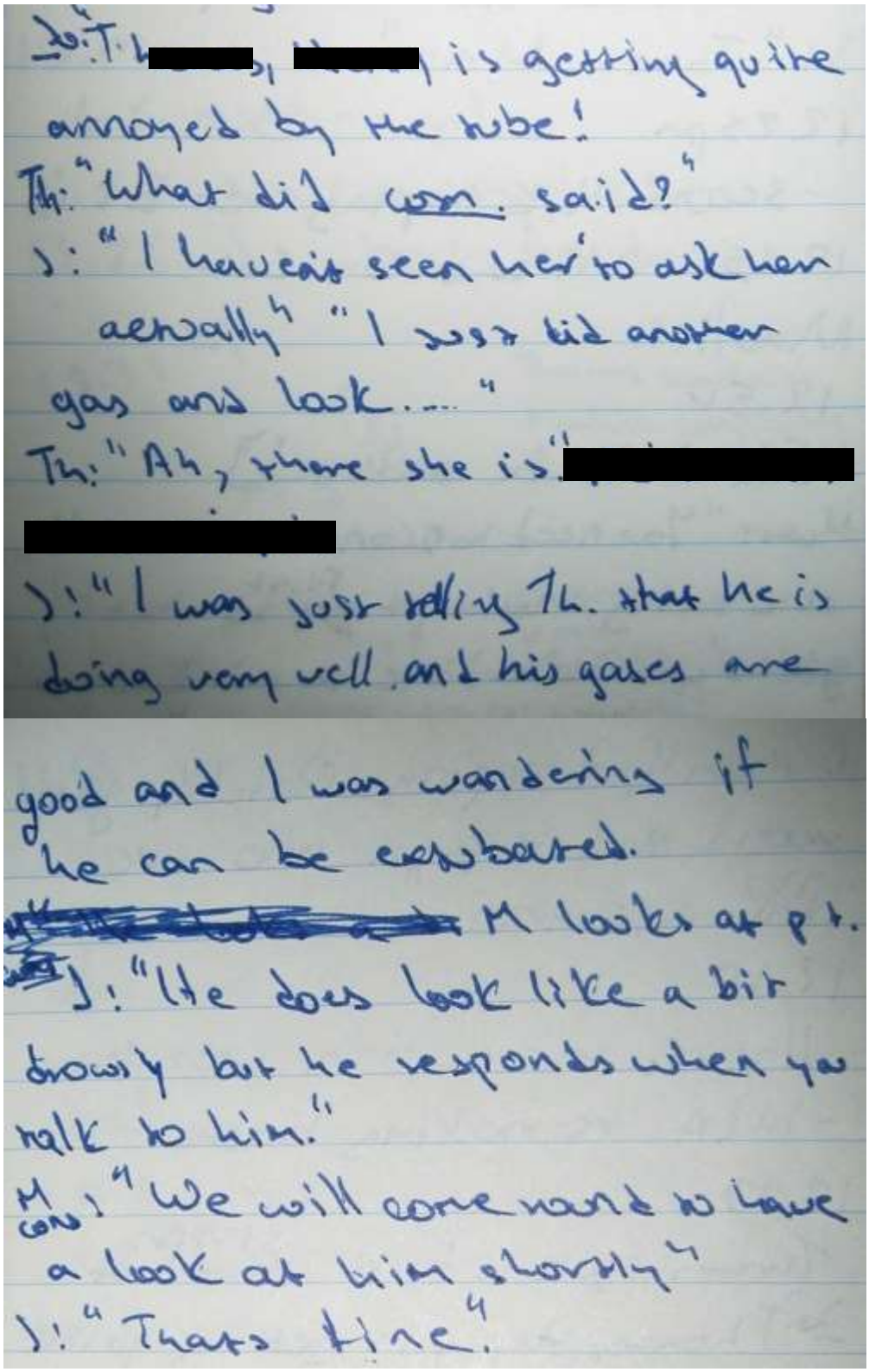
The senior sister I spoke to at Cityview presented nurses to 'look out for', and act on behalf of, the unconscious ICU patients, to maintain their dignity and comfort. She emphasised and focussed on the process of the patient's stay in the unit. In contrast to doctors who only see patients momentarily to make care decisions, nurses appear as the executers of those decisions and the ones who face the unpleasantness associated with those decisions. Because of the close familiarity and intimacy they have with patients, nurses witness first hand and appreciate patients' suffering. This contrasts previews research (e.g. by Zussman) who found ICU nurses unable to develop close familiarity and attachment with ICU patients because of the de-personalised status, rapid turnover, and scheduling of their shift patterns. However, this is not the case at Cityview. A likely reason may be the way nursing work is organised at Cityview, using a system of primary nursing. Every patient at Cityview is

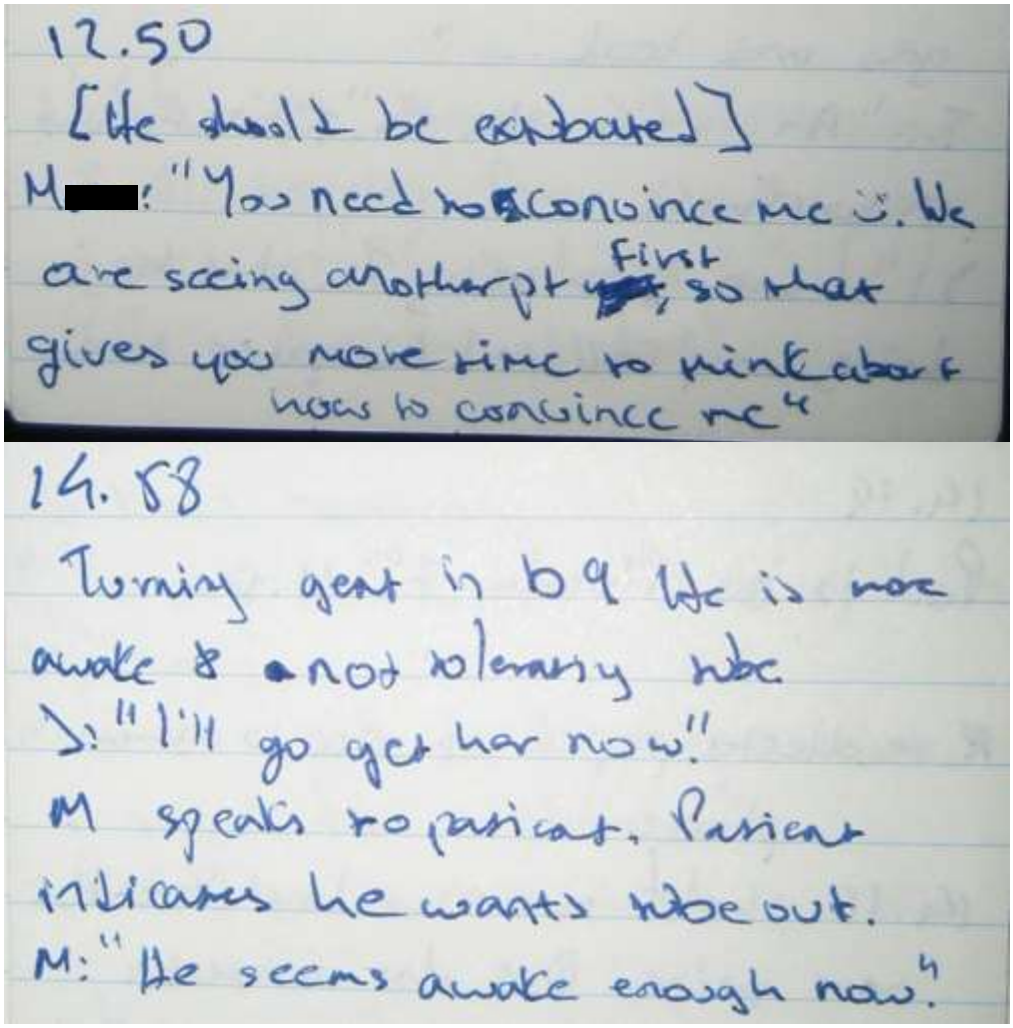
allocated a named nurse, who cares for the particular patient whenever she/he is on shift. In the event that she isn't, a colleague from within her team takes over and then reports back to her on her returning for the next shift. Because of this system, nurses at Cityview develop close familiarity and attachment with their patients which enables them to claim a distinct position in the work of the ICU.

Appendix Six: Examples of incidents observed

Riverview South ICU/Fieldnotes/Inter-professional disputes/31-38/Extubation

Handwritten notes made during the observation visit:





Typed extended fieldnotes made following the observation visit:

Janice (bedside nurse) commented how she believed her patient was ready to be extubated, but needed to get hold of the doctors to confirm. As we were talking, Theodore (junior doctor) walked by and Janice called to him.

Janice: Theodore, (my patient) is getting quite annoyed by the tube.

Theodore: What did the consultant say?

Janice: I haven't seen her to ask her actually. I just did another gas and look... (shows ABG result to Theodore).

Theodore: Ah, there she is (Theodore waves and invites consultant to approach).

Mary (consultant) approached the pair, stood up straight and looked at them both.

Janice: I was just telling Theodore that he (patient) is doing very well and his gases are good, and I was wondering if he can be extubated?

Mary turned to look at the patient, who at that moment looked particularly quiet and still; Mary did not say anything but turned back to look at Janice.

Janice: He does look a bit drowsy but he responds when you talk to him.
Mary: We will come round to have a look at him shortly.
Janice: That's fine.
Thirty minutes later Mary did not come round to Janice and Janice was feeling more anxious about getting her patient extubated. She went to find Mary and ask again about when the patient could be extubated.

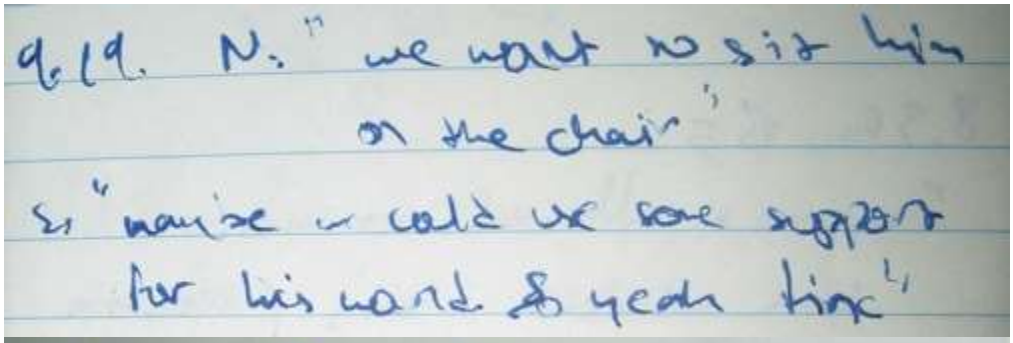
Mary: You need to convince me! We are seeing another patient first so that gives you more time to think about how to convince me.

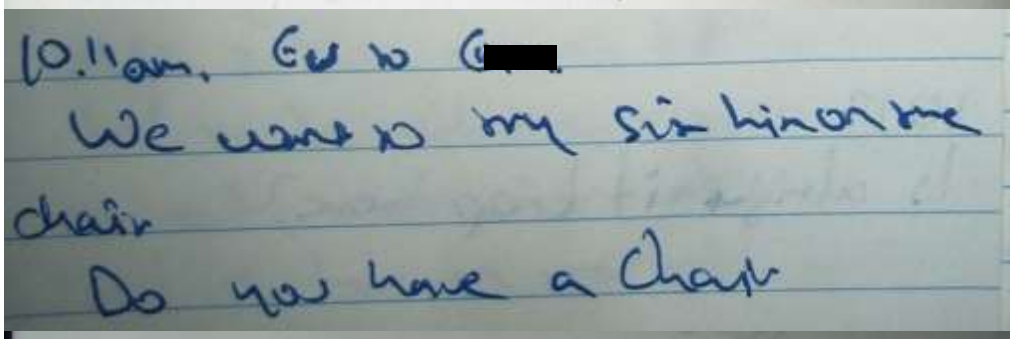
Two hours later and Mary did not come round to Janice's patient. The patient at this moment looked quite awake, agitated and clearly not tolerating the tube.

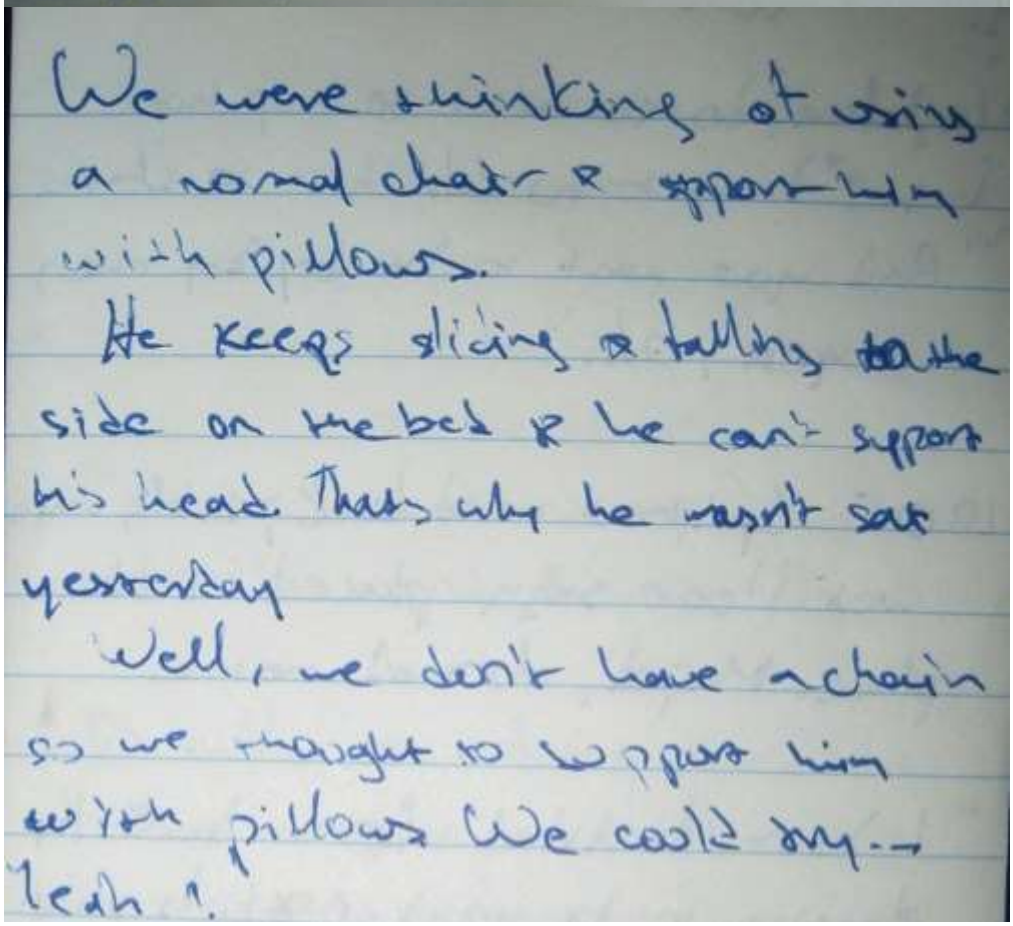
Janice: I'll go get her now (turning to me and went to find Mary).
Janice returned accompanied by Mary. Mary spoke to the patient and asked him how he was feeling. The patient responded (nodded).
Mary: He seems awake enough now (turning to Janice). We will get him (off the ventilator).

Cityview ICU/Fieldnotes/Inter-professional disputes/69-72/Getting a patient out of bed

<u>Handwritten notes made during the observation visit:</u>


9.19. N: "we want to sit him on the chair"
S: "maybe we could use some support for his head. So yeah that"


10.11am. Ew to [redacted]
We want to try sit him on the chair
Do you have a Chair

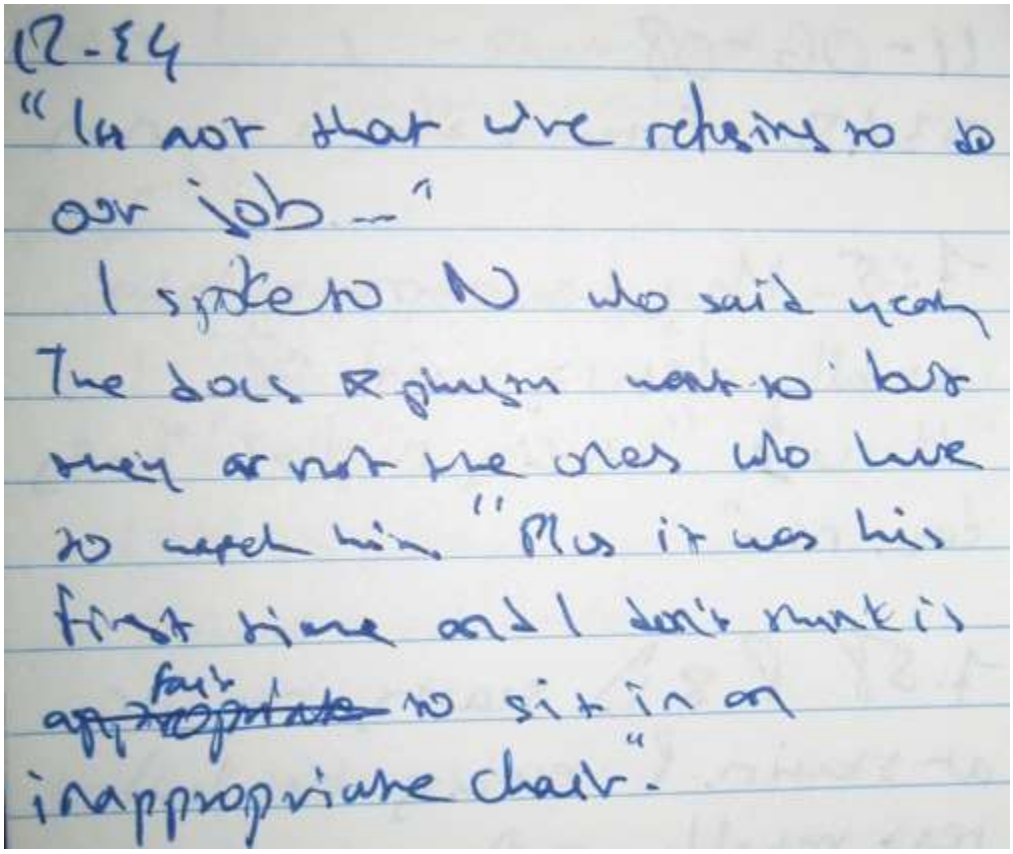

We were thinking of using a normal chair & support him with pillows.
He keeps sliding & falling to the side on the bed & he can't support his head. That's why he wasn't sat yesterday
Well, we don't have a chair so we thought to support him with pillows We could try.. Yeah !

Yeah, OK ...
I'll have to go change pt ...

[0.5] [Floppy] [proper chair]
10.56
"He doesn't look very comfortable in that chair, and he is getting hypertensive. Be near him. He didn't say anything but he would do.

10.53
We sat him on the chair but he is a bit ...
Floppy?
Yeah, his balance is not good. His head sort falls. That's why he needs the chair. I'm going to put him back on the bed soon. Well at least we tried."

11.35 G[redacted] & M put [redacted] back in bed. M-V [redacted]


12-14
"It not that we refusing to do our job –"
I spoke to N who said yeah The docs & physio want to but they are not the ones who have to wash him." Plus it was his first time and I don't think it's ~~appropriate~~ fair to sit in an inappropriate chair."

Typed extended fieldnotes made following the observation visit:

Following the ward round, Nick (SHO) approached Emmer (physiotherapist) and informed her that the patient on bed one should be sat at the chair.

Nick: Emmer, we want to sit him on the chair.

Emmer: Maybe we could use some support for his wound, so yeah fine.

Later, Emmer approached Patricia (band five nurse) caring for the particular patient.

Emmer: We want to try sitting him (patient) on the chair.

Patricia: Do you have a chair?

Emmer: We were thinking of using a normal chair and support him with pillows.

Patricia: He keeps sliding and falling to the side on the bed and he can't support his head. That's why he wasn't sat yesterday.

Emmer: Well, we don't have a chair so we thought to support him with pillows. We could try, yeah?

Patricia: Yeah OK.

Emmer: I'll have to go change first.

While the patient in bed one was sat on the chair by his bed, Patricia was very concerned because she felt the patient was very uncomfortable; she shared this with another nurse:

Patricia: He (patient) doesn't look very comfortable in that chair and he is getting hypertensive. He didn't say anything, but he wouldn't.

A while later Patricia approached Emmer (physiotherapist):

Patricia: You know we sat him (patient) on the chair, but he is a bit…
Emmer: Floppy?
Patricia: Yeah, his balance is not good. His head just falls. I am going to put him back on the bed soon. Well at least we tried.
Emmer: Could he just sit a bit longer?

A while later Patricia placed the patient back on the bed. I later approached and asked her about what had happened.

Patricia: Its not that we are refusing to do our job. I spoke to Natalie (nurse in charge) who said yeah, the docs and physios want to but they are not the ones who have to watch him.

Appendix Seven: Example of interview coding

17th October 2008, Interview with Judith, Sister at Cityview ICU, Verbatim transcription	Initial coding	Focussed coding	Categorising
Andreas: So basically, as you know I've been looking at issues of team and teamwork in intensive care, so the idea is that teamwork is just one way of delivering work. Just taking a step back, and thinking about intensive care work in general, how would you describe that kind of work?			
Judith: I think it requires, it certainly requires cooperation with each other, is a very highly stressful situation where the workload can change quite quickly or a patient's condition can change quite quickly. So many times it can be highly emotive, stressful, we have to think- be able to think on your feet, but where you don't feel isolated because if you feel alone and unsupported its not just bad for you as an individual but I think it can have a detrimental effect on other patients and their welfare. I think, that's how I would describe intensive care, it can change rapidly, it's intensive, it's emotive and it can be stressful, and requires your-that thinking where you can think quickly.	Workload changes quickly Patient condition can change quickly Lack of support Rapid change	Fluctuating nature of work Nurse support Fluctuating nature of work	Features of ICU work Intra-professional nursing boundary Features of ICU work

Andreas: It's interesting how you appear heavily dependent on your colleagues- **Judith**: I think yeah, I think you are absolutely dependent on your colleagues to work with you to able to observe-and it changes, depends on seniority, the more junior you tend to stay in your bed space because that's what you're worried about. But as you get more senior you are much more aware of what's going on around you and you can see that development in staff, where they'll start to offer to help you, if they can see you are busy, they see that you are busy and they'll say is there anything I can do for you. Or shall I go for my break now so that, you know we get lunches in and people have a break, and where they can take over a situation or move away from a bed space to go and help someone else and tell you what they're doing. So you do rely heavily on that support. And the same applies to the medical staff, they have to have a good working relationship with the medical staff. Uhm you have to have that working relationship; no prickly emotions, no arguing, no hierarchy, and I think that's what the NHS is built on. And I think that is pretty key.	Dependence on colleagues Junior nurses Senior nurses Offer help Relationship with medical staff	Nurse support Seniority Seniority Nurse support Nursing-medicine boundary	Intra-professional nursing boundary Intra-professional nursing boundary Intra-professional nursing boundary Inter-professional boundary

Andreas: How do you develop these, sort of good relationships with other professionals? **Judith**: In our particular unit or just me myself? **Andreas**: Uhm, lets start with you and then we can- **Judith**: Well, I have to say I am, I mean I've been in intensive care for a long time so I think inevitably it comes with experience. You learn from your mistakes, of which people-if anyone says they've never made a mistake they are lying. So you got that non sort of, you know be open, be fair and recognise your own faults I suppose. But it is experience, you're not scared to ask a question, you're not frightened to make fool of yourself because the chances are you're not. So that comes with experience.	Experience Fear of questioning	Seniority Seniority	Inter-professional boundary Inter-professional boundary
Andreas: What sort of input do these other healthcare professionals have? **Judith**: Well I would quite, they are quite involved, we got a gang of certainly dedicated staff I think our pharmacist for example looks after anaesthetics and imaging, so we know her very well, very good working relationship. She is superb, she is in there. She's so unassuming, but she'd be in there, she'd know the patients inside out, she'll come up before the ward round starts almost at 8 o'clock to know all what the drugs are so that	Pharmacist Relationship with pharmacist Knowledge of drugs	Nursing-pharmacy boundary Nursing-pharmacy boundary Pharmacy	Inter-professional boundary Inter-professional boundary Inter-professional

she knows what drugs everyone's been on for how long. You can ask her anything and she'll come back to you with the information. She is very keen on education, problem solving, because drug errors for example are one of our highest incidents, although minor ones, so she is very involved in that. Good working relationships with all levels of staff, everyone knows who she is, she is here every day. And she is effective, I mean that may be because she is a good pharmacist but that's the role we have so she plays a really vital role. Physiotherapists obviously, I would say that uhm, I think the recognition of the multidisciplinary team is well understood. And the we- we are quite visible the other multidisciplinary teams are quite visible on the unit, they you know, they certainly play an important role. And I think we work quite well with them.	Offers information Pharmacist role Physiotherapists Multidisciplinary team	Nursing-pharmacy boundary Pharmacy Physiotherapy	boundary Inter-professional boundary Inter-professional boundary Inter-professional boundary Inter-professional boundary
Andreas: Do you feel that junior staff are involved in th- **Judith**: Yeah. Yes, I would say that the more junior you are the less visible you are, and I think that's just because you're quite junior and you're nervous about making your presence felt or having an opinion. But once they found a voice within a group of nurses they feel more able to then contribute to things like ward round meetings and discussions; because	Junior nurses Confidence	Seniority Seniority	Inter-professional boundary Inter-professional boundary

they are more confident.[pause] I think it works both ways, but I think it's all to do with experience and it's allowing people to have that chance. And certainly as a team leader, I would make a concerted effort to make sure that the nurse at the bedside is involved in the ward round, particularly if they're junior. Because they won't say anything, they'll stand back and it's a matter of turning to them and –the doctors, bless them, forget to ask the nursing opinion sometimes. So you have to just go to that nurse and say 'now what do think, have you got any problems, have you got any questions to ask?', as opposed to taking over yourself.	Experience Involving junior nurses Doctors soliciting nursing opinion	Seniority Nurse support Nursing-medicine boundary	Inter-professional boundary Intra-professional nursing boundary Inter-professional boundary
Andreas: So during the ward round where do you think the bedside nurse contributes to? **Judith**: Well I think that... I think the prob-the thing is nurses must remember that they are at the bedside 24hrs a day; so you got to have a very effective handover. Now, it is always going to be medical to start with because you have the formal handover from doctor to- the day shift-the night shift to day shift and vice versa, you've got to have a medical input and an effective one with a plan of care. Having said that, I do sometimes I	Nursing presence Medical input Plan of care	Nursing-medicine boundary	Features of ICU work Inter-professional boundary

don’t think nurses always speak up as much as they could because it's quite dominant the medical handover, but again that comes with experience. I see nurses as not only looking at the social and psychological care of the patient, because nurses always tend to do, and the pressure area care and what are the cultural-they are important but they’re sort of softer than the medical side. But particularly intensive care nursing you are at the bedside all the time, you do have that knowledge and you can say-you have to say to the doctors ‘that’s wrong, what happens is this’ if you turn the patient or you know are they confused aren’t they confused, how does this affect their overall welfare.. uhm and that's how I see it., they have to be able to say that.	Nurse contribution to ward round Nursing role Intimate knowledge of patient condition	Nursing-medicine boundary Nursing-medicine boundary	Inter-professional boundary Inter-professional boundary Inter-professional boundary
Andreas: Would you say that most of the people in the ward round, in the team, have the same goals? **Judith**: Uhm... yeah I think- I would hope so. I think that uhm... well the same goal-well I suppose there are several of them. Essentially the outcome is you want a patient survive but if they don’t survive that their death if you like is managed well. That is always a challenge because sometimes you have conflicting views about what is the best for the	Nurse care priority Conflicting views	Professional care priorities Nursing-medicine boundary	Inter-professional boundary Inter-professional boundary

patient... but I think the essential goal is that patients survive and if they don't, they have a pretty decent and dignified death, because it is difficult being a patient in ITU the least we can give them is a de-you know not a difficult death. And the other thing is the patient experience and I think... that the experience of the patient whilst they are with us is as bearable as it can be and their relatives. So I think it's not just a black and white survive/die, it's what goes on between all that. So I think that would be say the-our joined goal; and it's a pretty obvious one but I think it's not always spoken about explicitly it's a just a sort of understood.	Nurse care priority	Professional care priorities	Inter-professional boundary
Andreas: An example sort of comes to mind. I think you will know better if it's more of a common one; for example, the medical team would like the patient to sit on the chair- **Judith**: Oh yes! **Andreas**: And the nurses may not always convinced about that. Can you tell me about what goes on there? **Judith**: Well I think again, it's to do with uhm.. the nurse at the bedside being there all the time, they know how they respond and how certain interactions would them and the doctors aren't always there so they see	Nurse presence		Features of ICU work

what happens. For example, when you turn a patient, it may become quite obvious that they haven't got that strength to sit upright in a chair, or that they had constant diarrhoea or that they've been vomiting a lot and that getting them out of bed is actually not going to be very pleasant, for anyone. Now the doctors tend to be a little bit tunnel-visioned; all they see is sitting in a chair helps their lung function. They don't see perhaps the difficulties and the unpleasantness for the patient that surrounds just getting someone out of bed; and I think that's where the conflict comes. I think all the nurses understand the importance of getting someone out of bed, but is everything else that go with it that the doctors don't see. However, I would say that some nurses, and again I think this comes down to experience, don't always articulate why they don't want to get them out of bed, as well as they could. And are not constant to really stand by their decision. I don't think the doctors are unreasonable, but they sometimes- they need to understand that the reasons why you are not going to-you don't want to do something; because at the end of the day they are looking at their medical care.	Intimate knowledge of patient condition Doctors care priorities (perceived) Inter-professional dispute Nurse presence Experience Articulate reasoning	 Professional care priorities Nursing-medicine boundary Seniority	Inter-professional boundary Inter-professional boundary Inter-professional boundary Features of ICU work Inter-professional boundary Inter-professional boundary
Andreas: I sometimes get the feeling that there are different ways of			

making a case, different professions can have different- **Judith**: Oh, I think yeah. **Andreas:** Is that what you are saying, is a matter of- **Judith**: Yeah, I think they can be, they can, not all of them and not all the time, but they are very focussed on the medical welfare of the patient rather than, and they forget about the diarrhoea and the vomiting and... how a patient actually feels you know like... And I know you can say well they are the critically ill they need to move forward but you know yourself when you feel really unwell, you don't really want to get out of bed. And the thought of being hoisted out of bed when you feel really terrible can be overwhelming for some people. And I don't think doctors always see that point, and it's a way of getting them to take that on board. I have to say I don't think we have a lot of that but every now and again there's conflict as you see. It's a very good example actually, getting someone out of bed. It's you know, it sounds so trivial but it isn't, it is uhm you know.	Doctors' care priorities (perceived) Nurses' care priority	Professionals' care priorities Professionals' care priorities	Inter-professional boundary Inter-professional boundary
Andreas: You hinted earlier about communication- **Judith**: Oh yeah, absolutely. I think communication is a very difficult subject. I mean I know you get-I got taught communication skills, but it's	Junior nurses	Seniority	Intra-professional

when you're very junior or if you're a student you just say ‘what on earth are you talking about, communication skills’ because you talk to each other all the time. But as again you get more experienced you suddenly learn there are so many different ways of talking to people, getting to know people, understanding how they work, how they best respond. But it's also being able to recognise that in different situations people talk differently to each other; so in an emergency they’ll be much more autocratic and, people must understand that's not uhm that's the way it is in an emergency and you can behave quite differently in you know just a quiet ordinary day. Some people never really develop great communication skills I would say; they will never be shining stars in the communication, they will always have a slight problem. But under stressful situations people behave in different ways and it's trying to recognise that in everyone. I have my own flaws in the way I speak, the way perhaps I behave under stress and being able to recognise that. You can’t change peoples’ personalities and you shouldn’t do it but you can’t have people, you got to get people to look at themselves more critically and see how they could improve.	Experience Emergency situations Stressful situations	Seniority Urgent work Urgent work	boundary Inter-professional boundary Inter-professional boundary Inter-professional boundary

Andreas: And one final think cause I know you have- **Judith**: No don't worry. **Andreas:** We mention the word team sometimes, but what would you say is the meaning, what would say is a team? **Judith**: Well I think well for me a team is a group of people who are basically working towards the same aims but, although they might have different skills and different-like our multidisciplinary team they all have different skills and expertise but they have the have same aims so that they know what they are trying to do and therefore hopefully can work with different people because they know what their different roles are as well. If you all have different agendas-and they do have different agendas but the essential one is the same, uhm then I think you can work well-that's what a team is, aim for the same goal but they might have different skills to achieve it but they're gonna they know what they're trying to achieve.	Professional skills Professional roles		Inter-professional boundary Inter-professional boundary
Andreas: Well, thank you for our chat we have covered loads of areas- **Judith**: Are you going to have to transcribe all that? **Andreas**: I enjoy it. Thank you very much. **Judith**: You're welcome. It's nice to see you.			

Andreas: Actually, is there anything else you would like to tell me? **Judith**: About this unit? No I don't think so, I mean we work quite well together. I mean we're not perfect but I think it's about recognising that imperfections and try- And I think you if can move forward and evolve then I think people stay motivated and therefore keen to stay where they are which always improves quality of care, so I think it's a whole broad range of what we do and how we work that I think makes it a successful unit. But we're not perfect by any means.	Work quite well together	Professional relationships	Inter-professional boundary

Appendix Eight: Example of initial analytic scheme

Professional boundaries				
Spectrum of work		*Intra-professional: nursing-nursing*	*Inter-professional: nursing-medicine*	*Inter-professional: allied health professionals*
	Low urgency	Professional roles	Professional roles	Professional roles
		Managerial work	Leadership	Medication support
		Clinical work	Advocacy	Maintenance work
		Work models	Care priorities	Care priorities
		Team nursing	Physiologic recovery	Drug safety
		Primary nursing	Patient comfort	Muscle capacity
		Professional relationships	Professional relationships	Professional relationships
		Supportive system	Senior nurse-consultant	Alliance
		Boundary creating	Senior nurse-junior doctor	Peripheralisation
		Global view	Professional concerns	Professional concerns
		Stepping in	Accountability	Safety
		Nurse experience	Patient knowledge	Infection
		Intimate acquaintance	Professional boundaries	Professional boundaries
		Unit layout	Patient admissions	Prescribing
		Monitoring technology	Weaning	Mobilisation
	High urgency		Tacit coordination	Exclusion
			Keen sensitivity	
			Attuned interaction	
			Role assumption	

Appendix Nine: Examples of ICU professionals' job descriptions

Example of senior nurse job description from Cityview ICU

Job description

Job title:	Senior Staff Nurse
Banding:	Band 6
Managerially Accountable to:	Ward Manager
Professionally Accountable to:	Divisional Matron Divisional Nurse
Qualifications:	Registered Nurse Post registration qualification in speciality Recognised teaching, assessing and mentoring qualification
Key Working Relationships:	Ward Manager Divisional Matron Divisional Nurse Area Nursing Team Service Managers General Manager Clinical Nurse Specialists Members of the multi-disciplinary team

Job Profile:

The Senior Staff Nurse will be expected to maintain high standards of care and be responsible for auditing those standards. The post holder will be responsible for maintaining a suitable and safe environment for patients and staff. On occasion the post holder will deputise for the Ward Manager in their absence.

The post holder will be responsible for providing leadership and professional development for the nursing and support workers within the clinical area. They will provide professional advice and support to the whole multidisciplinary team in caring for patients. The post holder will also support the implementation and evaluation of all education, training and development of staff. They will support the development, implementation and evaluation of policies, guidelines and protocols for the management of patients attending the clinical area in conjunction with the specialist MDT teams. They will be responsible for the interpretation of and maintaining compliance with Trust policies.

The post holder will aim to ensure that all patients are provided with a safe and high quality standard of care. They will be aware of the Care Quality Commission and work with the multi disciplinary team ensuring that they are maintained. The post holder will also be involved in developing and delivering high quality patient centred care and working with the divisional team to ensure this is incorporated within the divisional business objectives.

The post holder will act as a role model of expert clinical care sharing thier clinical expertise through practice development, education, mentorship and preceptorship. They will lead on specific tasks and projects as delegated by theward manager and represent them at divisional and trust meetings.

1

Key Responsibilities:

Management:

1. Deputise and act-up for the Ward manager in their absence

2. Be involved in the recruitment and retention of a workforce qualified to meet the needs of the patients in that area. This may include nursing staff, support workers, administrative staff, and housekeeping staff. In liaison with the directorate human resources team and ward manager.

3. Manage day to day ward staffing to ensure effective use of resources (including the prudent use of bank and agency staff)

4. Lead a team of nurses, ensure that all staff in that team undergo an annual appraisal (with intervening reviews) and have a personal development plan (PDP). Report any issues of poor conduct or performance to the ward manager and assist them to manage this situation in accordance with Trust policies and procedures.

5. Identify and investigate any issues of conduct, discipline and performance within your team, in accordance with trust policies and procedures, in liaison with the Ward Manager.

6. Help the ward manager to maintain a safe and acceptable environment for patients, visitors, students and staff, reporting and taking appropriate action on any hazards, incidents, faulty equipment or inadequate standards of cleaning.

7. Assist the ward manager to collect data and provide essential information in a timely and accurate manner as requested by the divisional and trust management teams. This could include a variety of audits.

8. To ensure safe custody and administration of drugs in accordance with Trust policies and procedures and in liaison with the pharmacy team.

9. To investigate and respond to informal and formal complaints in a timely manner encouraging an open and learning environment.

10. To participate in meetings and project work as identified and delegated by the ward manager, matron or Divisonal Nurse

Clinical/Professional Role:

1. To act as a role model of expert clinical practice in the speciality.

2. To be a role model and effective leader.

3. To provide patients care to an allocated group of patients and ensure continuity of care for the patients whom your nursing team is caring for.

4. To work closely with carers and relatives to ensure individualised patient centred care is provided.

5. To obtain patient and relative feedback by undertaking clinical rounds with the aim of providing excellent standards of care.

6. To ensure that nursing documentation is maintained to a high standard. Be a competent user of and participate in the ongoing development of the Electronic Patient Record.

7. To work in close liaison with other members of the multi-disciplinary team.

8. To promote the development of evidenced based practice on the ward.

9. To promote clinical supervision on the ward within the Trust's strategy.

10. To ensure high standards of care are given to all patients.

11. Advise patients on the promotion of health and the prevention of illness.

Educational Role:

1. To be aware of the educational needs of student nurses acting as a mentor and assessors. Work in close liaison with the Practice Facilitators and other educational staff.

2. Assist in the orientation and development of new staff to the area, including the acting as a mentor or preceptor.

3. Assist with the organisation of and participate in educational activities (eg teaching programmes) within the clinical area.

Professional Development:

1. To participate in own individual Performance Review, developing and actioning a PDP in liaison with the sister / charge nurse.

2. To attend appropriate educational programmes to develop his/her self and team in accordance with the needs of the service.

3. To adhere at all times to the NMC Code of Professional Conduct , and any other NMC guidelines and regulations.

Example of Consultant job description from Riverview South ICU

JOB DESCRIPTION & PERSON SPECIFICATION

4. Key Result Areas, Main Duties and Responsibilities

The Job

Title of Post:	Consultant in Intensive Care (2 posts)
Nature of Appointment:	Full-time
No. of Programmed Activities:	10-12 (Negotiable)
Responsible To:	Clinical Lead in Intensive Care
Accountable To:	Clinical Director, Critical Care & Pain Service Delivery Unit

[redacted]

Provide High Quality Care to Patients

- The post holder must be medically qualified and maintain GMC specialist registration and hold a licence to practice
- To develop and maintain the competencies required to carry out the duties required of the post.
- To ensure prompt attendance at agreed direct clinical care Programmed Activities.
- To ensure patients are involved in decisions about their care and to respond to their views.

Research, Teaching and Training

- Where possible to collaborate with academic and clinical colleagues to enhance the Trust's translational research portfolio, at all times meeting the full requirements of Research Governance.
- To provide high quality teaching to medical undergraduates and members of other health care professions as required by the Clinical Director.
- To act as clinical supervisor and appraiser as delegated by the Clinical Director to ensure external accreditation of training post.

Performance Management

- To work with medical, nursing and managerial colleagues to ensure high performance in the following areas:
- Clinical efficiency e.g. LOS reductions, reducing cancelled operations and DNA rates.
- Quality of outcomes e.g. infection control targets, reducing re-admission rates.
- Financial management e.g. identification, implementation and achievement of cost improvement programmes and participating in efforts to ensure services are provided cost effectively e.g. managing locum agency spend, monitoring and

managing the drug budget to target, ensuring accuracy of clinical data for the team.
- Operational efficiency e.g. day-case rates, waiting list activity and demand management.

Medical Staff Management
- To work with colleagues to ensure junior doctors' hours are compliant in line with EWTD and New Deal.
- To ensure that adequate systems and procedures are in place to control and monitor leave for junior medical staff and to ensure that there is appropriate cover within the clinical areas, including on-call commitments
- To participate in the recruitment of junior medical staff as and when required.
- To participate in team objective setting as part of the annual job planning cycle.
- To be responsible for the annual appraisal of all doctors in training, Trust doctors, Clinical Fellows and non-consultant grades as delegated by the Clinical Director/General Manager.

Governance
- To review clinical outcomes in designated area using external benchmarking data where appropriate, to identify and advise variances to the Clinical Director.
- Participate in clinical audit, incident reporting and analysis and to ensure resulting actions are implemented.
- To work closely with the Directorate, Patient and Public Involvement panels in relation to clinical and services developments as delegated by the Clinical Director.
- Participate in ensuring NICE requirements are reviewed and implemented and monitored in the speciality areas.
- To ensure clinical guidelines and protocols are adhered to by junior medical staff and updated on a regular basis.
- To keep fully informed about best practice in the speciality areas and ensure implications for practice changes are discussed with the Clinical Director.
- To role model good practice for infection control to all members of the multidisciplinary team.

Strategy and Business Planning
- To participate in the business planning and objective setting process for the directorate and Trust where appropriate.
- To represent the Trust at appropriate clinical networks/other external clinical meetings, as delegated by the Clinical Director.

Leadership and Team Working
- To demonstrate excellent leadership skills with regard to individual performance, clinical teams, the Trust and when participating in national or local initiatives.
- To work collaboratively with all members of the multi-disciplinary team and [redacted] Partners as required.
- To chair regular meetings for the specialties.
- To resolve conflict and difficult situations through negotiation and discussion, involving appropriate parties.
- Adhere to Trust/departmental guidelines on leave including reporting absence.